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The Halford Oration.[1]

THE FOUNDATION OF A MEDICAL SCHOOL AND THE PROGRESS OF MEDICAL EDUCATION.

By SIR RICHARD STAWELL, M.D., D.P.H.,

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I HAVE the privilege of delivering before you the Halford Oration for this year. The Special Committee of the Australian Institute of Anatomy has selected as the subject of this oration "The Foundation of a Medical School and the Progress of Medical Education." This selection was made in recognition of the late Professor Halford's great interest and fine influence in these matters. I desire to say that I most deeply appreciate the honour that has been done me in being asked to address you on this occasion and on this subject.

Any recognition of the late Professor Halford's original research work and of his great achievements in the domain of medical education makes a special personal appeal to me, for nigh on fifty years ago I was a medical student when he was Professor of Physiology in the University of Melbourne. Though he was then over sixty years of age, there was something exceptional and striking and great about his method of teaching and about the man himself. I venture to say, here, that as regards myself I know he was the first man among my teachers, either at school or at the university, who awoke in me a real live interest in the work I happened to be doing, and he it was who opened up a new world for me by explaining the meaning of

[1] Delivered at the Australian Institute of Anatomy, Canberra, on November 26, 1930.

research work and emphasizing the need for investigation into all kinds of knowledge and into all the fields of human activity.

He did this all in an apparently unsystematic way, but his personal influence combined with the attractiveness of the study of physiology served to transform me from a mere pupil to a real student, from one who is taught to one who learns.

As a matter or fact, his method was not so unsystematic as it appeared to be; we soon realized that he deliberately tried to develop in us the spirit of investigation; he gave us things to do and didn't do them for us; he set himself to be a director and not a demonstrator.

In later years I also realized that in his actual teaching and in his lectures Professor Halford had been imbued with the clear idea that physiology should be taught to medical students as a medical subject, thus leading on to the practical medical problems of health and ill health in human beings.

This was not such a narrow view as it might appear, since the elucidation of the problems of human physiology is made possible, largely by comparing them with similar problems in animal physiology, thereby giving great breadth of view to the study. Indeed, Halford was an early and distinguished exponent of this method of experimental and comparative physiology. But he would, I am sure, have agreed that physiology as a pure science is so wide and deep in its scope that it should not be hampered by being harnessed to medicine only. Physiology is concerned with life itself and not only with human health. I will, however, discuss this matter later, when I come to deal with the progress of medical education; at present I will consider the conditions of that type of education as established in Melbourne by Professor Halford when the medical school was founded, nearly seventy years ago.

At the time when George Britton Halford was appointed Professor of Physiology, Anatomy and Pathology in Melbourne he was teacher of anatomy at the Grosvenor Place School, one of the best of the private medical schools then existing in London, and situated at the back of Saint George's Hospital, at the well known Hyde Park corner. He was at the same time doing original research work, and as a married man with a growing family, he was earning his living by practising medicine in London. It was only natural, therefore, and it was of great advantage that Professor Halford's bent as a teacher in all these important academic subjects should have been in the direction of their application to practical medicine and surgery; but, running through the active years of his working life and from his student days, Halford had also the spirit and capacity for original research. His researches have been most interestingly and delightfully described by Professor Osborne in the first Halford Oration. Before his appointment to Melbourne he had won a name for himself in England as a "born physiologist."

You might think that all this devotion to experimental work and anatomy and physiology from early adult life must have been made at the expense of general learning and, what is called, literary culture. But this was not so. Listen to this quotation from Professor Osborne's address on "Halford, His Life and Work":

> On May 1, 1863, the new Professor gave his inaugural address to a large audience, and Melbourne got its first impression of a man who not only had a reputation in science, but could wield a flexible and vigorous English and could quote aptly from the poets. The little band of medical students he likened to the small English Army at Agincourt, and applied to them the immortal words that Shakespeare puts into the mouth of Henry V. The address is certainly a striking one, sound in judgement and attaining to eloquence. That the speaker had a wide acquaintance with English literature must have been obvious to his audience; that he had a strong personality and was not afraid to proclaim the truth that was in him must also have been noted.

I agree with Professor Osborne's opinion, but I would like to add that we should note, now and always, that Halford also showed the splendid spirit of the pioneer, not only in the adventure of his coming, but in all that he did from the day he first arrived in Melbourne in 1862.

From my historical investigations into the conditions of medical education as it was about one hundred years ago, I have been impressed with the fact that those who had the greatest influence in bringing about improvement in these matters were men, who realized the need of maintaining a high standard of general education as a preliminary to obtaining a high standard of scientific and professional education.

In 1823 Dr. Thomas Wakley brought out the first number of *The Lancet* and in its columns fought for a better level of work and of teaching in the hospitals.

In 1834 James Paget entered as a medical student at Saint Bartholomew's Hospital and worked all his long life for improvements in medical education.

In 1842 George Britton Halford commenced the study of medicine at St. George's Hospital and as a young man he must have heard "the hum of mighty workings," of the application of science to medicine, just as we can hear the hum of the application of science to industry, to agriculture, to everything. At that time, too, the young Halford must have been stirred by the sense of intellectual freedom that was moving in England.

In 1861 Dr. (afterwards Sir James) Paget, then himself a professor and lecturer in anatomy, physiology and pathology, was asked by the Melbourne University Council to act with Professor Owen in selecting a professor for the infant Melbourne Medical School. Sir James Paget was one of the most cultured men of his time and one of the most eloquent men of any time, and he was, of course, a sound scientist and a great surgeon. He had been a teacher and friend of a Dr. (afterwards Sir Anthony Colling) Brownless, who was then Vice-Chancellor in the University of Melbourne and who was enthusiastic and steadfast in advocating the

foundation of a medical school in the small and youthful City of Melbourne of seventy-five years ago. It is interesting to find on record in "The Memoirs and Letters of Sir James Paget" that Anthony Brownless and other students in 1840 wrote to Paget to express their appreciation of his first tentative course of lectures on pathological anatomy.

The meaning of this very brief historical review is to show that the Melbourne University Medical School was founded at a favourable time in the progress of medical education and founded under the favourable influence of intellectually minded medical men, who knew the advantages and the disadvantages of the hospital medical schools in London of that date.

Even before the arrival of Professor Halford the University Council determined that the curriculum for the degree of bachelor of medicine should consist of a five years' course, longer by a year than any systematic course of medical education then existing in the United Kingdom and Ireland. This University-made curriculum was bitterly attacked by a section of the public and the profession, who proclaimed in the daily press that "a university had never made any advance in medicine and never would," but Halford's acceptance of the initial provisional curriculum silenced all opposition. Some of the medical profession had wanted a hospital medical school and not a university medical school. It was fully thirty years after this course of study was established in Melbourne that the British General Medical Council insisted on a minimum five years' course in the United Kingdom. In 1890 Professor Allen, then visiting England, submitted to the Council a synopsis of our curriculum in Melbourne, and the President in his address at the next session of the Council said:

> A really excellent mode of utilizing a five years' period, with its associated periodical tests, will be found in an interesting communication describing the curriculum and examinations now enforced by the University of Melbourne for its degrees in medicine and surgery. This document, which has found place in the minutes of the Executive Committee, might with advantage be sent to the several qualifying bodies and might also be distributed amongst both teachers and examiners.

Surely that is a wonderful testimony to the wisdom and vision of Professor Halford and of those associated with him, who had in a pioneering spirit laid the foundations of a university medical school on those lines thirty years before.

Wisdom and vision, adventure and service seem to have been essential parts of the better pioneering spirit, and that spirit animated many medical men who had come to Victoria in those early days. Of those who helped in the foundation of the medical school there was, first, Dr. Anthony Brownless, who gave up much of his time and energy to the positions of Vice-Chancellor and Chancellor of the Melbourne University from 1857 to 1897—forty years. Second, the Honourable W. Haines, who had been a surgeon in England, was a member of the Melbourne University Council and was the first Premier of Victoria. Third, Sir James Palmer, who was a qualified medical practitioner and had edited the works of John Hunter, was Mayor of Melbourne in 1846 and President of the Legislative Council in 1855. Fourth, Sir Francis Murphy, a member of the Royal College of Surgeons, England, who was the first Speaker of the Legislative Assembly of Victoria. Fifth, Dr. Godfrey Howitt, who practised in Melbourne, but was also a botanist and entomologist, later bequeathing his collection to the university.

That is a fine record of great public service of medical men in a small community. From such men as these we would expect that a high standard of broad-based study would be set as a foundation of medical education, and it was.

Listen to this table of the subjects for the first years of the medical course:

First Year: Greek, Latin, chemistry and practical chemistry.

Second Year: Botany, comparative anatomy, zoology, *materia medica* and therapeutics, anatomy and dissections.

Professor Halford wanted, quite rightly, to add a course of natural philosophy or physics, as it is often called, to the first year, and did add it later.

Now I would propose in this address on "The Progress of Medical Education" to consider the subject according to three periods: (i) As it was in Victoria about seventy years ago, (ii) as it was in Australia about thirty years ago, the mid-period, and (iii) as it is now.

There are three university medical schools in Australia now, one in each of the capital cities Sydney, Melbourne and Adelaide, and within the comparatively near future medical schools will be established in connexion with the Universities of Queensland and of Western Australia. Special interest for them will therefore attach itself to an historical and critical review of the methods, the problems and the progress of medical education in Australia.

We have already seen that, seventy years ago, medical education started from a basis of general classical education (Greek and Latin), combined with general science. It is clear that the founders of the Melbourne Medical School recognized they were to train for a learned as well as for a scientific profession. But with the growth of science in its application to medicine it was found necessary for the student to devote more and more time to the study of the natural sciences as a preliminary to the study of professional science subjects, as anatomy, physiology and pathology are called; so Greek and Latin were omitted from the curriculum. Thirty years or so ago, after several tentative changes, the first year of the medical students' work was drastically altered, and with Halford's approval the work was to consist of science study, that is, natural philosophy, biology and chemistry, with laboratory work in biology and chemistry. The curriculum was then still a five years' course.

With slight modifications the medical course for the first year has remained unchanged in form for the last thirty years, though it may be changing in spirit from the study of pure natural science to the study of these subjects in special relation to the more medical subjects, such as the anatomy of the human being and the physiology of the living man.

Even with this specialization of study in the first year, it was comparatively recently found necessary in all the Australian medical schools to extend the course to a minimum of six years.

In England the medical curriculum is, officially, still only a five years' course as a minimum, provided that in addition to passing the ordinary university entrance examination the student shall have passed an examination in elementary chemistry and elementary physics. In Australia the authorities are of opinion that it is better that these subjects should be taught and learned at the university rather than in secondary schools or State and high schools.

Let me pause here for a few minutes to see where we stand in the matter of general learning for the young medical student; for a university degree is not only a diploma of technical knowledge and skill, but is, or should be, evidence of educational attainments, qualifying for admission to a learned profession. The entrance examination now to the education of medicine in Melbourne requires the ordinary standard of the Leaving School Certificate, which must, however, include Latin and geometry, and:

> This condition is waived if the student has passed the school leaving examination with honours in two subjects, one being English or a foreign language. It is assumed that intending medical students have an elementary knowledge of mathematics, including the use of logarithms and the simple geometrical ratios and of elementary school physics and chemistry.

In Sydney the requirements are much the same, but include an actual certificate of school work and examination in elementary physics and chemistry.

As regards this matter of general education, I must frankly say that, in my opinion, it would be a grave disservice to medical education to demand from the secondary schools anything approaching a narrow specialization in the school teaching of science subjects. Science should be broadly taught at school, regardless of the future professional work of the boys, whether they are going to be doctors, chemists, botanists, teachers or engineers. Who is to decide what is the best course of study either for the average boy or for the exceptional boy in the later years of his school life? It is easy to say that the work should not only interest the boy, but should develop his sense of application and of discipline; but it is really a very difficult question to answer. It may interest you to know that there is going on here a large amount of research on this very subject. There exists an Australian Council for Educational Research, financed by the Carnegie Foundation, as such research here, in a comparatively young country, is regarded as likely to be of world-wide usefulness.

I regard the study of science as capable of being a liberal education in itself, when it is taken at the proper time and in the proper way, but in the early years of education it should be associated with general learning and, especially with the learning of the English language, should include something of the spirit of the old classical education. I believe further that at the proper time the study of science may be pursued advantageously with a definite special purpose in view. I think, for instance, that in the first year of the medical course chemistry, physics and biology should be studied in their application to the more medical sciences of physiology and anatomy. That is the recommendation of the British Medical Council, and as an example of the same idea may be quoted the statement that:

> The Faculty of Medicine in Melbourne has recently recommended that a special course in organic chemistry be given in the first year, as this subject is of greater use when completed before biochemistry is taken up.

In contemplating the foundation of a university medical school in Brisbane or in Perth the authorities will have many difficulties to face, even in the work of the first year, proportionally many more difficulties, but not greater difficulties than were faced by the founders of the medical school in Melbourne seventy years ago. But let them go forward with a pioneering spirit, because the advantages of a medical school in a university community are so great that as soon as the finances of the State permit it, these schools should be established, if only on a modest scale; for teachers will be found, students will apply and progress will begin.

Now I enter on the consideration of the second division of the medical curriculum, the teaching and learning of anatomy and physiology. These are, of course, highly technical subjects, generally known as the "medical professional sciences," but, as a matter of fact, anatomy may and physiology must be taken as part of the subjects for the ordinary or pure science course. It is clear that knowledge of animal physiology with research into the problems of animal nutrition has a profound significance for us all in Australia and for the world in general. If the nutrition of sheep and of cattle could be improved, literally a great deal would be gained for us and for the human race. As regards the great science of anatomy of animals and human beings and all that is known as comparative anatomy, it is singularly appropriate for me this evening and in this hall of the Australian Institute of Anatomy to emphasize the enormous value of its study. It is, of course, the basis of all the veterinary surgeon's work, but within recent years it has been investigated with such thoroughness and with such remarkable understanding and discrimination by Sir Colin Mackenzie, that his studies have thrown great light on the meaning and development of human structure and the organs of the human body. From his researches advance has been made in the treatment of many bodily afflictions of human

beings. During the middle period of a student's work every encouragement should be given for some original investigation and research. That kind of work is the very foundation of his actual studies during the year and might be made the foundation of his life's work.

As regards their place in medical education, the special problem that centres round the subjects of anatomy and physiology is that they should be clearly and connectedly linked up on the one hand with the preliminary sciences which precede them, and on the other hand that they should lead clearly and definitely on to the sciences of surgery and medicine, which follow them. In the first curriculum organized by Professor Halford this relationship with hospital work was obvious, for hospital work went on concurrently with the learning of anatomy and physiology. For thirty years or more this system was continued. Then in our second period of medical education it was found that with the growth of these sciences more continuity and more time for study were required, free from the interruption of attendance at the hospitals. Eventually, after five modifications of the Halford curriculum had been made, the course was in 1911 drastically altered so that it was divided into two parts. The first part consisted of the preliminary and "professional" sciences, the second part was devoted preponderatingly to hospital practice and clinical work. Though I was not at the time in favour of this "clean cut" between the academic sciences and clinical work, I accepted it as apparently the best solution of a difficult problem, for I felt that nothing should be done to imperil the learning of the scientific basis of medical work or interfere with students' research work possibilities. But many of us thought then that the time allotted to practical clinical investigation and training was too short. And eventually, to overcome this, the course was lengthened to six years and so it remains.

How the real relationship between the professional sciences and professional work is to be wisely established is one of the present problems of medical education. I am impressed with the fact that under the wise influence of the professors in charge of these science departments there is a remarkable combination of the teaching of pure science and of the learning of its application to medical work. If only students would look upon examinations as a method for testing the strength of the connecting links in a chain of study, all might be well; but the average student regards examinations as objectionable obstacles in his course, to be "got through and done with." Under any circumstances he finds it difficult to apply recently acquired and imperfectly digested knowledge to a new type of work. Even for the exceptionally intelligent student time and training are required to enable him to do this. The hospital is a "foreign land" to him, its inhabitants are strange to him, the work is different from anything he has had to do before.

For the last eighteen years search has been made and is being made for some helpful, even partial, solution of these problems in medical education. In the United States there are at present two elaborate investigations going on. One is conducted by the celebrated Rockefeller Foundation; the investigation is world-wide in its scope and has been carried on already for six years. The other is a special commission on medical education, established by the authorities of the medical colleges in the United States, and has now been working for nearly four years. No conclusions have been reached. We have a difficult gap to bridge. We must recognize that a perfectly balanced course of medical education is, to use Lord Moynihan's phrase, "for pursuit and not for attainment."

I must pass on now to consider the problem of the place in any course of medical education which should be allotted to the study of pathology and its younger sister, bacteriology—the sciences of the cause of human disease and of diseased structure. When, and where should these subjects be studied? It is clear that pathology should be studied concurrently with the actual observation, investigation and treatment of human beings afflicted with disease, that is, during the time the student is doing clinical work at the hospital; that fixes the time. But where should pathology be studied? Where should the director or professor of pathology work and lecture and carry on research work? That is not an easy question to answer, for as Sir George Newman said: "Whilst pathology remains in some degree a separate science, it has become largely absorbed as an essential part of the practice of medicine and surgery." As a separate science of disease it is one of the greatest factors in research; it is, broadly speaking, the important force in any immediate progress of medical science. But research work is hard and exacting; it requires time, continuity, steadfast devotion and rare gifts, while the work of teaching, directioning studies and holding examinations is also time-consuming and exacting. It is clear that university work in pathology demands a team, indeed several teams, of workers under the direction of the professor.

From the nature of the study and of the teaching of certain sides of pathology which deal with the product of human disease, it would seem clear that much of practical pathology should be taught and learned at the hospitals—in the hospital laboratories, as opposed to university laboratories, and it is also clear that each teaching hospital, therefore, should have within its walls a pathological institute. As a matter of fact, that is the method in the many London hospital teaching schools, where the medical schools have grown up round the hospitals; but in Australia each of our medical schools is a department of the university, the university from its side officially recognizing hospital teaching and hospital practice. In Halford's days in Melbourne there was only one such hospital, and the professor of pathology gave his lectures and directed laboratory work

at the university, but also gave daily demonstrations at the hospital. In spite of the grave inconvenience of distance between these two centres of learning and teaching, Professor Allen carried out for many years this double work, so that the hospital demonstrations were superlatively fine and helpful, both to the students and to the hospital staff. But that was thirty to fifty years ago, and the scope and burden of the work have greatly increased since then.

The imperative need for the closest relationship in time and space and spirit between the study of pathology and the work in the wards and departments of a general hospital has been emphasized by all authorities on medical education. Abraham Flexner, working under the authority of the Carnegie Foundation, emphasized this need in 1912. Sir George Newman in 1923, writing on "Recent Advances in Medical Education in England," advocates the "actual connexion of hospital wards with the school or institute of pathology." In Sydney to a certain important extent, and in Melbourne to a graver degree, difficulties have developed in the application of the principle of this closest coordination between a university department and the same sort of department in hospitals. Perth and Brisbane, when they establish their medical schools, will find the same difficulties, because their university buildings are remote from the present general hospitals of these cities, where essential educational work must be done. In Adelaide there need be no difficulty, for the teaching hospital adjoins the university medical school. In Melbourne there are now three teaching hospitals officially recognized by the university, and rightly so. They are: (i) The Melbourne Hospital, (iii) the Saint Vincent's Hospital, each situated about a mile from the university buildings, and (iii) the Alfred Hospital, situated about two miles or more away. In Sydney, though the Royal Prince Alfred Hospital is contiguous to the university, the other officially recognized clinical centres, the Sydney Hospital and the Saint Vincent's Hospital, are several miles away.

Now it is most desirable from every point of view —from the point of view of medical education, of the maintenance of a high standard of professional work, of the progress of medical science and from the point of view of help to the individual patient and of service to the community—that practical work and study should be carried on in all these hospitals in the way that it has developed in these two cities. The personal and responsible relationship of a senior student to a patient is one of the greatest importance in medical education and the stimulus of the presence of students has an influence upon the professional staff of a hospital, of an enormous and living value.

After some personal experience of medical work in the United States, in Germany, in England and Scotland and at the war, I have formed the opinion that the average Australian medical practitioner has an all-round higher standard of efficiency in dealing with sickness and injury than is obtained in other countries. I believe the personal individual responsibility given to senior students, under well considered direction and control, in their hospital work and investigation and treatment of a comparatively large number of patients, has made for this high standard of medical service in our communities.

Demonstrations and exposition by even the most gifted teachers do not take the place of sustained personal investigation and do rob the students of a sense of responsibility; and that was Halford's idea in all his teaching in the early days. In many British and American schools the student is too systematically spoon fed, and spoon fed with concentrated pabulum. He is told things, he is shown things, he is given things to do in a laboratory, but there is no time or opportunity to let him take up and continue personal investigations. One of the recent findings of the Commission of Medical Education in the United States is "that at the present day a great deal is done to render the student unfit, psychologically, for independent practice." That's what we must avoid here.

Whatever, then, may be the difficulties in the organization of all the branches of pathology to fit in with clinical teaching, I believe it would be wrong to concentrate hospital teaching and study down to one institution. I hold that the universities should recognize and help to organize certain "practical" branches of pathological work in each teaching hospital. Just how this should be carried out I have not sufficient knowledge to say, but I would call attention to the fact that this difficulty of a multiplicity of hospital schools linked up with one university is present in other parts of the world. For instance, the Department of Medicine of the McGill University at Montreal and the Harvard University Medical School at Boston have both met and faced these same difficulties. Admirable reports of the organization of these schools have recently been published by the Rockefeller Foundation. In Montreal there is the Royal Victoria Hospital with its general wards and with a special university clinic established as part of the hospital for special research, and there is the Montreal General Hospital which, in addition to its general wards, has been equipped for special biochemical research. The students are allotted to both hospitals, according to a special time table. Professor Meakins in his report says:

> This arrangement of hospital work gives to the student a certain independence at a time when he is best equipped to profit by it.

At Boston there are three general hospitals officially recognized by the Harvard University as teaching hospitals: (i) The Peter Bent Brigham Hospital, (ii) the Massachusetts General Hospital, (iii) the Boston City Hospital. All of them are, in addition to their wards, well equipped with pathological and research laboratories. A certain number of students are allotted to each hospital for medical, surgical and pathological work. The numbers are so arranged that there is no overcrowding in any

one hospital. In the report dealing with education at the Harvard Medical School it is emphasized that the students entering these hospitals are not merely taught, but have to work in the wards, and are "thereby stimulated to a sense of personal responsibility."

It is not only in the United States and in Canada and here, that this method of medical education in hospital practice has been evolved, for in London the same sort of method has also gradually been evolved. Each hospital school there independently teaches pathology, for example, and medicine and surgery, and many of the hospital schools are recognized by the one university. Indeed, the University of London now gives the rank and title of professor to many of the teachers of pathology in the different schools, just as it has appointed full-time professors of medicine and of surgery to six out of the eleven medical schools in London.

Before I pass from consideration of the methods and problems of medical education in pathology, I must refer to a fine development in the matter of medical research that has occurred in Melbourne. Some fifteen years ago the trustees, in accordance with the will and wishes of the late Mrs. Walter Hall, endowed "The Walter and Eliza Hall Institute of Research in Pathology and Medicine" and established it in connexion with the Melbourne Hospital; and more recently the late Mr. Thomas Baker, during his life time, established in connexion with the Alfred Hospital and endowed a similar institute, "The Thomas Baker, Alice Baker and Eleanor Shaw Medical Research Institute." Now, though these institutes were primarily and solely established for research work, for investigating "the confines of the unknown," and not for teaching that which is known, yet the presence of the workers in those institutes has a stimulating and helpful influence upon all the thoughtful members of the resident and honorary staffs of the hospitals and raises the whole standard of hospital work. The Director of the institute is *ex officio* a member of the medical staff with some ward beds under his control. With his special knowledge of science and research work and with close knowledge of present day clinical problems of medicine and surgery, he acts as a wise adviser to many of the teaching staff and to all who consult him.

Now this leads me on to the consideration of progress of medical education in the practical major subjects, of medicine, surgery and obstetrics. In Halford's day the teaching in these subjects was of two kinds, as it still is: first, systematic lectures given at the university and, second, clinical instruction given in the wards or out-patient department of the hospital. This instruction was and still is given by visiting honorary medical officers to the hospital. As it happened, when I was a medical student there were some able men on the staff and some even brilliant, Sir Thomas Fitzgerald for example, so that the work was well done, and as clinical clerks and dressers we had plenty to do, and under good direction. To be perfectly frank, there were also on the staff some honorary medical officers who would be described in modern phraseology as "absolute duds" from a teaching point of view; but in these cases the young resident medical officers rose to the occasion and in a remarkable way helped us in the work. The systematic lectures were for the most part good and were helpful, when text books were few and as uninspiring as a dictionary or catalogue; but we had a surfeit of these lectures, which were carried on three times a week for six terms through two years. Their usefulness varied according to the personality of the lecturer. On the whole, I think in my student days this kind of education was the least successful portion of it, but it was carried on for the whole of the Halford period, founded as it was, on the tradition of the London and Edinburgh schools.

In 1900 these systematic lectures were reduced to one course, given in the final year, and as the lecturers were both exceptional men in their way, the work was well done. And now, in this third period of the progress of education, these systematic university lectures have been reduced in number from eighty to forty in the course. At Melbourne, instead of there being one lecturer in each subject, "it has been deliberately chosen that the systematic lecturing in each of these two major subjects be entrusted to a team of lecturers under a chairman (the Stewart Lecturer), all of whom are in active medical and surgical practice." So writes recently the Dean of the Faculty of Medicine, and adds: "That this policy is most successful as far as teaching is concerned there can be no possible doubt; where it fails is in the direction of research, which is best conducted by a whole-time professor." With this opinion everyone will, in the main, agree. Through the magnificent generosity of Mr. George Bosch, of Sydney, such appointments as whole-time professors of medicine and of surgery have been made possible in that city, while in Melbourne, largely through the wise understanding of the Trustees of the Edward Wilson Fund, it has been possible to appoint a whole-time professor of obstetrics. All this will make for well ordered research and investigation, but it will, I hope, do even more; for I believe the presence in any medical school of whole-time professors of these subjects, with special capacities and facilities for research, must stimulate and help all the clinical teachers attached to the school. It is clear that these professional units cannot undertake the clinical teaching of all the students, but they can set a standard and an example. Of course, as regards the influence in the school, almost everything depends on the personality of the professor; he should be broad and sympathetically minded as well as scientifically minded.

These clinical units with a professor in control, "university clinics" as they are called in England, have, as it seems to me, a threefold purpose: (i) The better organization of the subjects for study in the

final years of the medical course; (ii) the raising of the standard of clinical teaching; and (iii) chiefly the advancement of knowledge. They have been in existence in England and Wales and Edinburgh for over ten years; some have been eminently successful and some have seemed to fail from want of the suitable type of personality in the director.

I have just referred to the difficulty of organization in the final years of study for qualification in medicine. The difficulty lies in the fact that there is too much to do. Though the course has been prolonged, the work is still crowded, and yet more subjects are pressing for study. To quote again from Professor Osborne's recent statement on this matter:

> Pressure is continually being brought to bear on the Faculty to enlarge the scope of instruction in some branch of professional study. This year (1930) a departure has been made in allotting two days for intensive study of infant welfare; these two days are considered part of the period devoted to children's diseases. The latest criticism is that too little time is devoted to psychiatry. In all such suggestions a strong case can be made out for the advocated reform, but in the crowded condition of the curriculum extra time could be gained only by robbing the general hospital of some of its already limited hours of clinical instruction.

It seems to me and to all others who have had experience in this kind of teaching, that the major subjects of medicine and surgery can be learned only by continuity of study, investigation and instruction. No curriculum is well arranged if the steady continuity of the work is interrupted by attendance at lectures on special subjects or by attendance at special hospitals. And yet all this special work is necessary, for it includes, of course, obstetrics, diseases of children, public health and preventive medicine, infant welfare, venereal disease, mental disease and psychology, radiology, anæsthetics, disease of the eyes, nose and throat, skin diseases, forensic medicine and other subjects. It is not possible for me or for any one man to devise a well balanced time table to fit in all this work, but it should be possible for a specially selected professorial board of teachers to begin to bring about some improvement on the present scheme, where the essential work in the major subjects seems to be imperilled.

It is, of course, true, as Professor Arthur Keith has recently pointed out, that with the growth and increase of knowledge there must come in medicine, as in all sciences, augmentation of specialism. That is in accordance with the law of progress or evolution, as Herbert Spencer long ago recognized. For the medical student education, anyway, must be sound and complete on the major or foundation subjects of general medical practice, and only a short but encouraging introduction into special subjects should be attempted. All real work of professional value in special subjects must come as post-graduate study, otherwise we shall get a body of narrow-minded medical men—one-track physicians, as they are called in the United States. A condition of things that would justify the gibe, that a specialist is "one who knows more and more about less and less"!

No, specialism must be looked upon as of the nature of research, and while some actual research work must be encouraged in the student and officially recognized during his medical course, all serious sustained research should come as a calling after graduation.

And now let me say in conclusion that there will be no further appreciable progress in the science of medicine except along the lines of scientific research, and broad scientific research at that, carried out for its own sake and not necessarily for some obvious utilitarian object.

The older medical methods of pure discriminating observation are not likely to help us much further, though they can consolidate the advance that has been made. We must investigate things that we cannot understand and things that we cannot see, and so penetrate into the confines of the unknown. Just in this way worked, seventy years and more ago, the founder of the first medical school in Australia, Professor George Britton Halford, in whose honour and memory this address is given, and just in this way would he have wished his successors to be working.

THE TREATMENT OF DIFFICULT LABOUR IN GENERAL PRACTICE.[1]

By J. RIDDELL, M.B., B.S. (Adelaide),
Kapunda, South Australia.

THE decision to allot at least one monthly meeting in the year to a country centre is a departure in the activities of the Branch that should meet with general approval and must tend to amalgamate, in connexion with the annual post-graduate course, the city and country interests.

I esteem it an honour to have been asked as a country member to assist in opening this discussion on a subject with which we as general practitioners are daily concerned.

At the outset I would lay stress on the fact that the basis of both institutional and domiciliary midwifery practice, whether dealing with a normal or abnormal case, is fundamentally the same, namely, a knowledge of the art of obstetrics, sound surgical technique, diagnostic acumen and patience.

The difference lies in the lack of facilities and local conditions under which the art has to be applied when dealing with midwifery in the home, oft-times made more difficult by the presence of over-anxious relatives and fussy inquisitive neighbours. This difference, which at first sight may seem insignificant, I have known to be the cause of making what should have been a physiological confinement, through forcing one into an error of judgement, wrong treatment and undue haste, a protracted and difficult labour carried out with anxiety to the practitioner and danger to the patient.

[1] Read at a meeting of the South Australian Branch of the British Medical Association on October 25, 1930.

Antenatal Care.

The value of preventive medicine has long been recognized as a factor in guarding against epidemics of infectious and other diseases. The aim of modern midwifery should likewise be to prevent difficulties and to prepare to meet them should they arise.

The institution of antenatal clinics is now established in connexion with all large teaching hospitals of the world. The principle can be applied in private practice with advantage, and within the last two years I have adopted the practice of requesting expectant mothers not only to send along specimens of urine, but to present themselves for examination once each month during the last two months of pregnancy. If this practice were universally adopted, much subsequent anxiety to the practitioner and invalidity to the patient might be avoided. My routine is to examine abdominally for the lie of the child and the relation of its size to the maternal parts and decide whether it is reasonable to expect the child to be born naturally. It is seldom necessary to make a vaginal examination. Should any abnormal condition be noticed, attention to the patient at confinement in her home should be refused, and the maternity ward at the hospital or nursing home with competent nursing should be advised. As an instance of the value of antenatal examination I would quote a case of right occipito-posterior position which was converted to a left occipito-anterior position within the last fortnight of pregnancy by the use of Buist's pads. The use of these pads was originally introduced by Dr. R. C. Buist, of Dundee. The method was first brought under my notice by a nurse trainee of Queen's Home.

The mode of application is to place a firm cylindrical pad in the right flank (assuming the presence of a right occipito-posterior position) in order to press the anterior shoulder towards the mid-line. Another pad is placed on the left side of the abdomen to press back the limbs. The pads, which may be made from pillow slips, are held in position by a firm abdominal binder. A description of the method may be found in the 1929 edition of Jellett and Madill's book on obstetrics.

When the breech presents, an attempt to rotate the fœtus by external version to a vertex presentation should be made. It should be understood that these attempts at correction must be made before there is engagement of the presenting part. Persistent attempts at correction of abnormal positions are not advisable. When we consider the number of cases which we have felt certain could not terminate naturally or promised a stormy time because of faulty lie or disproportion but which finally have progressed with comparatively little difficulty, manipulative zeal should be tempered with judgement and caution.

Prolonged Labour.

One of the most exacting if not difficult problems in home midwifery practice is that of protracted labour. Though attempts have been made to define an average length of time that the three recognized stages of labour should occupy, any such declaration must be purely arbitrary when we consider the several factors, maternal and fœtal, which may arise to cause delay without untoward end result to mother or child. A distinction should be drawn between what may be termed prolonged physiological and pathological labour. In the latter case careful examination abdominally and vaginally either during pregnancy or whilst labour is in progress will reveal a cause for the dystocia; the lines of treatment to be followed may then be decided upon in accordance with the type of obstruction found. In the event of physiological delay in labour abdominal palpation reveals that the lie of the child is normal; there is no obstruction at the pelvic brim into which the fœtal head descends readily; there is no evidence of disproportion between the size of the child and the pelvis; in addition there may be a history of a previous trial of labour; yet labour does not proceed as quickly and evenly as one is wont to expect. The delay may be in the first stage when it may be due to feeble and infrequent pains at the start; the pains may ease up at any period with the result that there is no continued regular dilatation of the cervical os and the descent of the presenting part is slow or may be temporarily arrested. By means of abdominal palpation the observer will note the feeble and irregular contractions of the uterus and vaginal examination will reveal the altered rate of descent of the presenting part. It may be that the head is arrested on the perineum.

When we come to consider treatment the crux of the position is accuracy of diagnosis. After the conduct of more than three thousand confinements in country general practice I am of the opinion that, while 10% of pregnancies are complicated by the existence of definite abnormal conditions, either fœtal or maternal, which may require some measure of operative relief, the remaining 90% of pregnant women, given time and the exhibition of patience on the part of the attendant, *plus* an enema, *plus* a catheter, *plus* scopolamine and morphine, or other narcotic, will deliver themselves without further assistance. Patience on the part of the practitioner is a cardinal virtue in the conduct of all midwifery practices, more so during the protracted labour of the *primigravida*.

It is possible that patience can be overdone. One of my first obstetrical cases was that of a *primigravida* said to be in labour. The patient certainly had pain. I remained with her many hours till my patience became exhausted. Confinement took place one month later. One's reputation with patient and relatives was not prejudiced but rather enhanced because of the forbearance and attention. The *cognoscenti* would have judged otherwise.

The nervous, anxious *primipara* who starts in labour with slight irregular pains at long intervals, destined to a protracted first stage of many hours, possibly two or three days, with an over-anxious and fussy mother-in-law in attendance, is a problem, especially if the place of confinement is miles from the surgery. Removal to hospital if possible will permit of treatment by means of scopolamine and morphine, but in the private home, unless competent nursing is available, "twilight sleep" is not applicable.

An occasional injection of morphine or a mixture containing bromide and chloral or other narcotic to insure a sufficiency of rest must then be relied on.

The practice of repeated vaginal examination is to be condemned. It is distasteful to the patient and may induce a spirit of no confidence, in addition there are the added risks of introducing infection and possible premature rupture of the membranes. It is seldom necessary in a long drawn-out first stage to make other than a preliminary vaginal examination.

Sufficient information of the progress of the labour should be obtained by noting the character of the pains and by abdominal palpation with observation of the temperature, the maternal and fœtal pulse rates and the patient's general condition.

Pituitary extract in a protracted first stage I have tried, and given up as uncertain in its action. Though it is much used by practitioners I prefer to restrict the administration of pituitary extract during the second stage of labour to the *multipara* with a fully dilated os and a roomy pelvis, especially when the head is well down, when there is delay due to weak pains. The injection of one cubic centimetre of pituitrin may then be dramatic in its effect. A rapid expulsion of the placenta with pieces of *secundines* left behind has occurred in my experience in several instances when pituitrin has been used. Occasionally the deliberate rupture of the presenting bag of membrane in a *multipara* with a dilated os may lead to an equally rapid descent of the arrested child.

When help is considered necessary, obstetrical forceps appear to offer a more certain method of assisting delivery than the injection of pituitrin. Regarded as a surgical operation, their application with strict attention to cleanliness and surgical technique provides a method of assistance which is under full control throughout. With birth held up through uterine inertia, forceps should only be used when the cervix is fully dilated and the head well down in the pelvis. High forceps delivery I regard as evidence in most instances of insufficient morphine and patience, and can be looked upon often as the cause of the severe cervical laceration one sees in the surgery. Forceps should be used to assist the uterine contractions, and traction should be intermittent with the pains excepting in certain cases when rapid delivery is necessary. Pulling the head through the vulval opening should be avoided; the instrument should be removed when the head is on the perineum.

I am an advocate of the use of forceps in those conditions only in which experience has taught their need in the interests of the mother and child. Often when the head is arrested low down in the vagina or on the perineum, when the pains are strong but there is no progress, a slight *vis a fronte* by means of forceps while the patient is lightly anæsthetized will ease a deal of suffering and over-stretching of the *levator ani* and soft parts.

The woman of advanced years with a relaxed perineal outlet and prolapse of the pelvic viscera outside the vulva, who boasts eight or more births without having had medical attention, would probably have been better off with some forceps assistance at her confinements.

Post Partum Hæmorrhage and Retained Placenta.

Twenty years ago a message was received that a woman eight miles away who had been confined was bleeding to death. Motor-cars then were not the popular means of transit. The journey, a most uncomfortable one—the night being wet and stormy—was made on horseback. On arrival at the home there was abundant evidence of a severe *post partum* hæmorrhage; the patient was unconscious, pulseless, restless, air-hungry and practically exsanguinated. The hæmorrhage for the time being had ceased. The midwife produced the cord with a piece of placenta attached, the size of the palm of the hand. As the after-birth was delayed in arrival she had pulled on the cord. After packing the patient with hot bottles, raising the end of the bed, bandaging the legs *et cetera*, I injected saline solution under both breasts; this was repeated a couple of times. As there was no further bleeding I decided to wait and watch. In about four hours time, as her condition had considerably improved, the placenta was removed manually. The patient eventually recovered.

I have many times since found a length of rubber tubing, funnel and a transfusion needle a valuable addition to the armamentarium of the midwifery bag.

The number of cases in which bleeding occurs can be minimized by the exercise of judgement in the management of labour up to the end of the second stage. Prolonged anæsthesia and delivery with forceps in the absence of uterine contractions are causes of bleeding and should be guarded against. When I used to give pituitrin to help the pains, delay in placental birth with sharp hæmorrhage was oft-times noted.

The most potent cause of *post partum* hæmorrhage, however, is faulty management of the third stage; I would emphasize the risk of bleeding from undue haste in endeavouring to expel the placenta before its detachment. This may have occurred within five to ten minutes of the birth as evidenced by the rising of the fundus above the umbilicus and the lengthening of the cord due to the descent of the placenta into the lower uterine segment and vagina; but the membranes may not have separated yet, and it is wise always to wait at least twenty minutes and even more before attempting Credé's method of placental expression. Though twenty minutes is generally regarded as the time of waiting, a longer period may often be advisable in the mother's interest and further to lessen the anxiety of the puerperium.

The amount of pressure necessary to remove a placenta, if properly applied, need not be great. The use of excessive pressure is to be avoided. I have seen the fundus compressed violently with two hands and the *accoucheur* on the bed forcing his weight down on to the uterus in an attempt to get the placenta away. Besides causing the patient unnecessary pain, such a procedure is most likely to be followed by the retention of *secundines*. When the placenta is *in utero* and there is bleeding either of the continuous oozing or intermittent type, gentle massage of the fundus and pressure should be tried and may be sufficient to control the hæmorrhage; if such measures are unsuccessful, manual removal is advisable. Personally I would rather manually remove a retained adherent placenta with hæmorrhage than resort to violent fundal pressure tactics. The risk of sepsis from introducing a gloved hand into the vagina is not greater than leaving pieces of

placenta *in utero* with the possibility of continued intermittent hæmorrhages, sapræmia *et cetera* during the puerperium. For manual removal of the placenta a definite procedure must be visualized:

The patient is fully anæsthetized; the external hand steadies the fundus whilst the hand in the uterus detaches the placenta from the uterine wall. The placenta should be, so to speak, peeled off the uterine wall and then removed in one mass. Piecemeal removal is to be avoided. It is generally found that the placenta is adherent over a limited area.

As a routine I never use an intrauterine douche after manual removal of the placenta, being content to see that all clots are removed before finally withdrawing the hand. Gentle massage and fundal pressure and an injection of one cubic centimetre of pituitrin are generally all the treatment that is then necessary.

Hæmorrhage from the placental site after the placenta has been delivered is generally controlled by fundal pressure and intramuscular injection of pituitary extract. If this procedure fails, bimanual compression, with a closed fist in the vagina in front of the cervix and the other hand on the abdomen over the fundus and behind the uterus, will always be found effective within half an hour or less.

The use of hot uterine douches I have given up in private practice. There is just as much, if not more risk from sepsis fiddling around with a douche can and domestic saline solutions as from introducing a gloved hand to exert pressure. Moreover, by the latter method the pressure can be applied immediately and is effective. The routine examination of the placenta at every confinement should never be omitted. In one instance after re-examination of the placenta I discovered protracted hæmorrhage to be due to a retained *placenta succenturiata;* the bleeding was not controlled till the missing remnant was retrieved.

Ten days after confinement a patient was brought in to a northern hospital suffering from puerperal sepsis. Her medical attendant had been most assiduous with douche can irrigations, but had failed to locate fully half of the placenta still *in utero*. The patient, despite bilateral pneumonia, ultimately recovered.

Placenta Prævia.

In my small series of cases of *placenta prævia* the condition has in the main belonged to the type classified as *placenta prævia partialis;* cases of the central type have been rare. The first intimation of the condition has always been some degree of hæmorrhage occurring during the last two months of pregnancy.

Comparatively recently a *multipara* eight months pregnant had a sudden copious hæmorrhage. An examination disclosed a lateral *placenta prævia*. Being in the town the patient was removed from her home to the hospital. The soft patulous os readily admitted two fingers. The membranes were intact. Bipolar version was performed without difficulty. After rupture of the membranes a leg was brought down and the half breech prevented further bleeding. The child being small and pains strong, the birth proceeded without further interference. Difficulty was experienced in securing the birth of the placenta. As the patient was extremely shocked I decided not to proceed. She was given an injection of morphine and submammary saline solution. There was no further bleeding and the adherent placenta was manually removed under anæsthesia the following morning.

My practice in dealing with *placenta prævia* is never to temporize once the condition is diagnosed; the risk of sudden hæmorrhage is too great. If possible the patient is brought into hospital, otherwise treatment is undertaken on the spot. If the patient is in labour the membranes are ruptured, pituitary extract is given, a tight binder is applied and the woman is left to deliver the infant by natural means; this is assisted by the fact that the child is oft-times premature and small. This may be all that is required.

In the absence of evidence of the onset of labour, if the vertex presents, the patient is fully anæsthetized, bipolar version is proceeded with and a leg and half breech are brought down through the os. Nothing further is done, labour being allowed to proceed naturally. Occasionally it has been found necessary to exert traction on the leg to control bleeding, but as a rule this is not required.

When version is not immediately successful, rupture of the membranes must be relied upon. Bringing down a leg and half breech, if such a procedure is possible, offers a more certain means of controlling the hæmorrhage.

After the birth of the placenta pituitary extract and salines are given and the usual remedies for the relief of shock are applied.

Occipito-Posterior Positions.

My first recognized occipito-posterior case is indelibly imprinted on my mind because of the attendant conditions.

The place of confinement was situated ten miles from my surgery. The woman had been in labour many hours under the care of a woman of the old time midwife type, plenty of assurance when all was well, over fussy and collapsed when things were not going well. After a wash in the family basin in the bottom of which were holes plugged with rag, I made a vaginal examination and found an occipito-posterior position of the vertex which was well down in the pelvis. I decided to rotate with forceps. The patient was fully anæsthetized with chloroform, the narcosis being carried on by the "gamp." After much manœuvring I had the satisfaction of getting the occiput round to the pubis; as the woman was a *multipara* and roomy, the baby was born in due course. The patient died some years after of natural causes.

An amusing incident during the operation was the advent of a yellow hen who tried unsuccessfully to make a nest amongst the bedclothes at the foot of the bed. Her endeavours were ultimately frustrated by the midwife shooing her into an adjacent room with the admonition "go in there and lay your egg." I mention the incidents in this case in more or less detail firstly to point out the primitive conditions one may encounter in private practice and yet with operative interference experience no untoward result, and secondly that had I not used forceps to correct the posterior position but had exercised more patience and less zeal, a spontaneous rotation may have resulted. That the occipito-posterior presentation can be the cause of much anxiety and difficulty is admitted, but fortunately the knowledge that in the majority of cases the occiput, given time, tends to spontaneous forward rotation should be consolation to one in doubt as to his obstetrical prowess.

The treatment when the occiput is in a posterior position depends on several factors. The first

essential is correct diagnosis of the position by noting the situation of the anterior fontanelle forward toward the pubis or by the palpation of an ear. Frequently, however, the position is not recognized till an attempt is made to apply forceps to the arrested head.

The second factor is the recognition of the fact that in the majority of cases it is the deflexion of the head which interferes with its entry into the brim of the pelvis or its subsequent spontaneous rotation whilst in the pelvis.

Thirdly, I would stress the value of antenatal examination, having seen the result of Buist's pads in transforming an occipito-posterior into an anterior position. This method should be tried in all instances. Success may be looked for in the latter months of pregnancy when the head moves freely above the brim.

Usually when first seen, however, the woman is well in labour. It may be that the head is descending slowly and a waiting policy is advisable, a careful watch being kept for any signs of maternal or fœtal distress. If surgical intervention is necessary two methods are available: (i) manual rotation, (ii) rotation with forceps. The former should always be tried first and will generally be found successful. The application of the forceps in the reverse position to that adopted in ordinary vertex positions will be found an advantage. After rotation, if it is decided to complete delivery without waiting, the instrument can be reapplied. If attempts at rotation fail, the final method left is to deliver the child with forceps face to the pubes. Deliberation is essential and special care must be taken to limit the perineal damage.

THE TREATMENT OF DIFFICULT LABOUR IN GENERAL PRACTICE.[1]

By P. T. S. CHERRY, M.B., B.S. (Adelaide),
Alberton, South Australia.

MIDWIFERY is the backbone of general practice. Most medical men see more of midwifery than they do of any single pathological ailment, except perhaps during the epidemics of common colds or acute infectious diseases of childhood.

Upon a correct conduct of his obstetrics a general practitioner's reputation may rise or fall, because once he has the confidence of the mother of a family the rest will usually follow suit.

The medical student is taught his obstetrics by lectures and reading. With a textbook knowledge of his subject he spends a short time in residence at some midwifery training school, and there attends a comparatively small scheduled number of women in labour. Many of these deliveries he does not even conduct himself. He usually has had no knowledge of the patients prior to their coming into the hospital at any time during their nine months of pregnancy. If he is doing other work at a general hospital he is usually only sent for when labour is well advanced, and perhaps nearing completion. He may arrive almost breathless to watch the head being steered over the perineum by a pupil nurse. He may be then asked to press upon the fundus while the matron or sister in charge sutures a torn perineum.

What a difference when he enters practice and has knowledge of his patient very often as soon as she knows that she is pregnant. It is then that he begins to think and realize that, although he may have obtained honours at his examination in obstetrics, his practical knowledge and confidence in himself are at a low premium.

After leaving my house surgeonship at the Adelaide Hospital, I went as an assistant for two years to a well-known country practitioner who was anxious to lessen his night work. To my delight I came in for a great deal of midwifery, and I must admit that, although I had worked hard during my academic career, it was this assistantship that gave me my knowledge of obstetrics.

When one enters practice as a *locum tenens*, assistant or owner of a recently bought general practice, he has a rough row to hoe to obtain his patients' confidence. We all remember being called to a patient in labour and arriving to find her in the first stage and in charge of a "Sarah Gamp" with years more of so-called experience to her credit. She would immediately set out to help the young practitioner and to tell him of the good name of his principal or predecessor.

The young doctor must at once take charge and diagnose almost immediately the position of the child, and how long the labour is likely to take. Of course, a correct estimate of this latter is almost impossible, even to the most experienced, but the young man must decide immediately or wait until he can, whether the patient is safe to be left or not. He must be in a position to dictate instructions both to the patient and to the midwife and also (by far the hardest job of the lot) to satisfy the relatives that all is well.

Personally most of my practice has been where ideal conditions have not been available, for six years in the country, and the remaining fifteen in a poor class industrial centre. A fair number of cases have been in comparatively small maternity homes, and many more in private houses, some of which have been anything but Utopian in their surroundings.

At a meeting like this, with the limited time at our disposal, it would be useless to attempt to describe the management of difficult labours of all types. You have all learned this during your academic career, and if it is forgotten at any critical time, there is usually ample time to enable one to look up the salient steps.

This is a subject that could be discussed at great length and I take it that both Dr. Riddell and I are asked to give just short papers with the idea of beginning a discussion among other members.

I do not intend to give any set academic methods, but to relate my experience of certain details (which I trust have been correct) that have occurred in my own general practice. Apart from the systematic examination of the urine for the detection of possible

[1] Read at a meeting of the South Australian Branch of the British Medical Association on October 25, 1930.

toxæmia, I do not wish to describe anything of an antenatal nature.

Choice of Nurse.

When a patient engages a doctor for her confinement, she has more often than not decided upon and booked the nurse that is to look after her. Do not stop at this. If the nurse is unknown to you, endeavour to find out what credentials she possesses, especially to see that she is registered if not fully trained. If not satisfied, refuse point blank to work with her. You will find that the patient will favour the doctor. Avoid nurses that do midwifery work at times without a doctor. These are used to making vaginal examinations or "trying the pains" as they call it, and they will, of course, endeavour to examine *per vaginam* while you are attending the patient. Give a verbal or written list of instructions to the patient to carry out during the remainder of her pregnancy, and for the nurse to observe during the confinement and puerperium. Let the patient see at once that you intend to be in absolute charge at the time. If the patient should say, "Oh Doctor, my mother says that I must not have twilight sleep or chloroform," just remind her that as she is engaging you she probably has trust in you, and if necessities requiring the use of "twilight sleep" and chloroform should arise, you intend to use your own discretion, and when such possible antagonisms are replaced by feelings of confidence, her pregnancy is far more likely to come to a successful issue.

A few years ago the medical men in the Port Adelaide district conjointly drew up a list of "Suggestions and Instructions for Confinement Cases."[1] A large number of these lists was printed and a supply allotted to each doctor concerned. I have here a few copies for your perusal. It was issued by our self-constituted Port Adelaide Medical Association, so that no particular nurse could be hurt by any particular doctor whose patient might give it to her.

Conduct of Difficult Labour.

Remember that a confinement is actually a physiological process, and a natural event. Be kind to your patient and thoughtful, but do not unnecessarily interfere with nature. Fothergill has aptly stated that in the practice of obstetrics "the more you know the less you will do." This is a golden maxim, and if there is anything to do follow nature as far as possible, assist it in every way, and above all do nothing which is not pure common sense.

At the first visit endeavour by palpation and limited vaginal examination to ascertain the position of the child, and from questioning the patient estimate the character and frequency of the pains. If the position is abnormal, quietly inform the nurse and relatives of the state of affairs, but not the patient. If the pains are not severe and are fairly well tolerated by the patient, leave her alone and let her walk about. If she has been about for hours, or up all night and lost a good deal of sleep, give her an injection of morphine and hyoscine and let her rest. This injection in general practice is far different in its effects from that given in good maternity homes. In the latter, the progress of labour is watched by fully trained nurses; the room is darkened, cotton wool placed in the ears, and no questions asked of the patient. In an ordinary private house, on your return about four hours later, you will find that the drug has not taken so much effect, because both the relatives and the nurse have interrogated the patient to find out "how she is getting on" *et cetera*. You will usually find that the drugs have taken some effect, however, even if she has not slept. The pains have been somewhat dulled, and labour in spite of this has advanced. I rarely give a full dose of morphine and hyoscine unless I am tolerably sure that labour will not end within four hours. If this should happen, one is apt to have trouble with an apparently apnœic baby. If on your return four hours or more later you find that the cervix is still not fully dilated, do not hesitate to repeat the hypnotic, in smaller doses perhaps, and possibly the hyoscine alone, and explain to the relatives that all is still well, that the patient is progressing favourably, and so long as she is not distressed the delay is all to her advantage.

As long as dilatation continues do not interfere. If it does not progress or if later it becomes arrested though the pains continue, something must be wrong. The head does not properly engage or the cervix is too rigid. In such an event I do not hesitate to give chloroform. After attending to the usual scrubbing up details, I insert two or more fingers, perhaps the whole hand (a fairly easy procedure in some *multiparæ*), dilate gently and slowly, and then, without rupturing the membranes, feel for the child's ear. This is the best guide I know of to ascertain the correct position of a vertex presentation. The position may be occipito-posterior, the conduct of which I will describe directly, or an anterior position with disproportion between the head and pelvis, usually due to a prominent sacral promontory. If the position can be altered I alter it after rupturing the membranes. I may then apply forceps, and use just sufficient traction to bring the head into engagement in the brim. I then remove the forceps, give more morphine and hyoscine as she is coming out of chloroform, and leave her again to nature. Often in another few hours the head is on the perineum and the rest is easy.

I do not necessarily pull the head right through the cervix. This I consider is the correct course to follow, because the head has not yet moulded and, except in a *multipara* with plenty of room, an unmoulded head cannot descend through the vagina without causing trouble. Even if the cervix be not torn, the whole uterus may be pulled down, and the lower uterine supports torn from their bony attachments, with a resultant *procidentia* in spite of the actual perineum remaining intact. The danger to the child in such circumstances is also great, and I have had experience of still-births or cerebral hæmorrhages which, if I had charge of the

[1] Dr. Cherry distributed a few copies of the leaflet among the members present at the meeting.

same patients again, would not happen except after great delay and consideration. I can well remember my early days when I encountered cases of difficult labour in the country. The relatives would ask: "Can you not do something?" Thinking that this was a vote of no confidence in myself and as the woman was apparently in great distress, I interfered. I did not use any or perhaps not enough hypnotic. I gave chloroform, applied forceps and pulled a head which was unmoulded, though in a normal position, through the passages, with the result that the child was born dead and the perineum was badly torn.

It would be futile in a paper of this length to attempt to describe details of management of all classes of difficult labour. Such details would necessitate a paper as voluminous as a course of lectures on obstetrics to a university class.

Occipito-posterior Positions.

The two chief and by far the commonest causes of difficult labour met with in general practice are occipito-posterior vertex and breech presentations. In the conduct of the former try and diagnose the condition from the outset. This is not always the easiest of matters, but, if in doubt, feel for an ear as I described just now. If dilatation progresses at all, even slowly, do not interfere, unless the patient becomes exhausted. Then interfere only in a more or less passive way, and remember that nature's cure for inertia of the uterus as well as for any other type of fatigue is rest. Induce this by means of light anæsthesia or hypnotics. If dilatation will not proceed nor the head advance, endeavour to dilate manually under chloroform anæsthesia and rotate the child through the corresponding quarter circle. Do not attempt to turn the head alone, but rotate the anterior shoulder forwards until, by means of a hand over the nape of the neck and upper dorsal spine, the vertebral column of the child is placed anteriorly as regards the mother. Then apply forceps and bring the head down a little, for two reasons: first, to attempt to make it engage properly; secondly, to stop the child slipping back to the occipito-posterior position. The head, as I have said before, is still unmoulded, and normally it should take at least two and a half hours to descend. If hypnotics are administered it will take longer, but the delay is worth while. Usually in four or five hours the head will be on the perineum in the correct position and terminal delivery is easy. If the head descends in the occipito-posterior position and tends to proceed more slowly as it approaches the barrier set up by the *levatores ani* and if rotation forward is delayed, do not wait too long before performing manual rotation low down. Do it while the head can be pushed up a little. The effect of the low rotation is sometimes remarkable, as when the position has been corrected and forceps have been applied, the pains almost push the fœtus out, the instruments acting as a guide rather than a tractor. I have never turned the head with the forceps as rotators, as I do not consider the procedure safe and scientific. I well remember a few years ago a *primipara* engaged me for her confinement. The position at the onset of labour was diagnosed as occipito-posterior. I left her under the influence of hypnotics for a long while until the os was almost fully dilated. Chloroform anæsthesia was administered and I rotated the head and shoulders, applied forceps and pulled the child into the world, still-born. Within two years I confined her again. This time another occipito-posterior position confronted me. I rotated, applied forceps, pulled a little until the child would not budge. I removed the instruments, gave morphine and hyoscine while she was coming out of the chloroform, and left her alone with a partially trained nurse in a maternity home. Just four hours later I was sent for again; the patient was still sleepy and the child's head was bulging the perineum. This time a fine healthy boy with a correctly moulded unbruised head was born.

Breech Presentations.

Breech presentations cause a good deal of anxiety, especially when they occur in *primiparæ*. The chief maxims are patience and control of the fundus. The diagnosis of the position is not usually difficult, although when the patient is a *primipara* the very swollen and congested scrotum of a male breech sometimes gives a puzzling sensation to the examining finger. Endeavour to ascertain from the start whether the presentation is sacro-anterior or sacro-posterior. Conduct the first and most of the second stages under narcosis if necessary, and do not actively interfere at all until the breech is expelled or well down on the perineum. If progress becomes arrested, induce anæsthesia and ascertain the cause, which is usually extended legs. Bring these down, but do not pull. Let all the force be a *vis a tergo* maintained by normal uterine contractions and by pressure upon the fundus. Remember that traction on the legs, with relaxation of the fundal pressure, will tend to extend the arms, and we all know how difficult such a complication is. Also never attempt to bring down the arms until you have rotated the fœtus from a sacro-posterior to the correct sacro-anterior position. Once the legs and breech are born, delay is dangerous and haste is necessary, as the cord becomes compressed, and a viable child is not usually delivered after many minutes' delay.

Of the other malpresentations and malpositions I have fortunately, or perhaps unfortunately, had experience of almost all. Occipito-posterior positions and breech presentations are the commonest, and for the others the progress is usually so slow that ample time is given for the *accoucheur* to consider the *rationale* of the delivery. The exception to this is, of course, the management of hæmorrhages, either due to *placenta prævia* or accidental, concealed or revealed. Treatment of this is like that of almost any gross surgical hæmorrhage, and one must always remember the salient points in the conduct of obstetric bleedings. With this advice I do not wish to state more, except to mention that such patients and also those suffering from toxæmia should, if possible, be moved to a maternity home, unless a thoroughly trained nurse is available in the patient's house.

I do not intend to dwell upon antenatal treatment or puerperal states, as time will not permit.

As regards anæsthesia I almost invariably use chloroform. If there is albuminuria with increased blood pressure I give ether by the open method after chloroform induction.

The Care of the Perineum.

With careful, slow, as nearly natural as possible obstetrics, torn perinea are not very common. Unless the laceration is slight and very superficial always use sutures. Swab out the vagina carefully, and minutely examine for any laceration in the channel as well as externally. If the rupture is extensive and involves the sulci, it will do no harm to wait for some hours. Call an anæsthetist, and, with the patient in the lithotomy position, repair the perineum as carefully as if you were doing a secondary Emmet's operation.

Cæsarean Section.

I have never had occasion to resort to Cæsarean section. Perhaps one reason is that rickets with the resultant contracted pelves are not common in Australia, except in a few war brides and immigrants that we may come across. A few years ago I heard the late Dr. W. T. Hayward, who had had an extensive general practice for a great many years, state that it disgusted him to hear of young men doing so many Cæsarean sections. His advice to them was to go back and learn their obstetrics over again. I am not in a position to discuss the merits and demerits of this operation in dangerous conditions such as central *placenta prævia*, contracted pelvis *et cetera*, but one thing is certain that such an operation should only be performed when there is a chance of a viable child, when all surgical technique and paraphernalia are available, and when there has been practically no interference from below.

Consultations.

Difficult labour is far more worrying and perplexing than many abdominal surgical operations. The latter usually demand both an assistant and an anæsthetist. Do not then attempt very difficult labour without a second man for the anæsthetic. It is a wonderful help and assurance and it is your duty to both the patient and her offspring that all available help should be procured for their well-being. The assistant is also of wonderful assistance in resuscitating an asphyxiated baby and in repairing the perineum.

Pituitrin.

For some years now I have been using pituitrin rather extensively; conversely for many years I have scarcely ever used forceps. Also my patients' perinea are far less frequently torn than formerly. However, in a paper on "Difficult Labour" pituitrin should not hold much prominence. When there is obstruction in the birth canal it can be a dangerous drug. Never give it until you are certain that there is no gross obstruction of any sort; then always be ready to give chloroform should bad pains ensue without any advance in labour. When there have been careful diagnosis of position and conservation of the mother's efforts by hypnosis in the early stages and pituitrin has been injected and chloroform lightly administered in the late second stage, forceps are scarcely ever necessary. When the head is fairly low, I give one cubic centimetre of pituitrin, and as soon as the pains become very strong I induce light anæsthesia with chloroform. The pituitrin provides the necessary *vis a tergo*, and the light anæsthesia allows the accessory powers to act, a true imitation of nature, except that it is painless. I have heard of men who use forceps in almost every case in which the child is not born before their arrival. This is, of course, almost criminal and entirely unnatural. The force applied is one of pulling, whereas it should be applied from above by the contractions of the uterus aided by the accessory powers. I have used pituitrin in difficult labour, and have not yet had occasion to regret its application. It is certainly an agent that has to be used carefully and not universally and indiscriminately.

Gentlemen, I thank you for the privilege you have given me in asking me to address you on such an important subject this evening.

I am afraid I have given you nothing new and have tried to avoid any wearisome academic details. What I have told is entirely the result of my own practical experience, and I hope that my efforts have not been in vain. I always try to follow the advice of my principal in my first practice as an assistant, namely, "Attend each and every mid. with the same apprehension of possible danger, no matter what your experience."

Reports of Cases.

A TICK IN THE AUDITORY MEATUS.

By BRYAN FOSTER, M.B., B.S. (Melbourne),
Honorary Surgeon, Ear, Nose and Throat Department, The Alfred Hospital, Melbourne.

J.S., A MAN, *ætatis* 45, came to my house on Sunday, November 16, 1930, complaining of a painful ear. Twenty days previously, while on a fishing holiday at Mallacoota Inlet, he was sure that something got into his left ear. He tried to poke it out with a twig, but was not successful. On his return from Mallacoota a week later, as the ear had become sore, he went to a doctor who syringed the ear. This gave some relief for a day or two, but the pain then returned and had increased in severity till the night before he saw me he had been unable to sleep and in the morning he found the ear swollen and there was some discharge from the canal. On inspection I found the meatus occluded by inflammatory swelling of its walls with œdema extending a little way in front of and behind the lower part of the pinna. Having no appliances at home with which to carry the examination further, I ordered first-aid treatment and asked him to come to my rooms the following morning. When he appeared I was surprised to see that he had well marked facial paralysis on the left side, inability to close left eye, wrinkle the forehead or whistle. There had been no sign of this on the previous day.

On examination the meatus was found to contain a large quantity of creamy material of a faint pink tinge. On clearing this away I saw what appeared to be a bead of granulation tissue on floor of cartilaginous meatus. Probe investigation, however, demonstrated not granulation tissue, but a minute foreign body, smooth and hard, embedded in the œdematous floor of the meatus. Contrary to expectation this foreign body refused to come out with a scoop, but remained firmly embedded and fixed, so the scoop was abandoned and the intruder seized with aural forceps. There was a little splash of blood and a squashed tick about 4·5 millimetres (three-sixteenths of an

inch) long was extracted. The little red object had been the stern end of an engorged tick which had burrowed for about half its length into the floor of the meatus. The creamy material was mainly excretion from the tick. Apart from the small excavation in the floor of the meatus there was no other injury. The middle ear was intact and hearing unimpaired.

The condition rapidly cleared up and within three days all signs of facial paralysis had disappeared. I cannot account for facial nerve involvement, as the inflammatory swelling of the meatal walls was not so extensive or severe as frequently occurs in furunculosis of the meatus. Had the patient not been so definite in his statement that something had got into the ear I might easily have mistaken the condition for a furuncular abscess which had ruptured into the meatus a short time before the ear was examined.

Reviews.

MEDICAL HISTORY.

GARRISON'S "Introduction to the History of Medicine" is too well known to need introduction.[1] The fact that this new edition is the fourth since the volume made its first appearance in 1913 is proof of its popularity and usefulness. The present edition retains all the features that made previous editions so handy and reliable for reference on any matter of medical history. The old subject matter is now brought up to date; in addition, two new chapters have been added. It is gratifying that in spite of these additions and the considerable increase in the size of those appendices which deal with chronology and bibliography, the author has succeeded in retaining the single volume, for this adds to ease of reference. This result has been achieved by the use of small type for the less important references and summaries of events in certain periods.

Not the least interesting parts of the book are the new sections at the beginning and end of the volume. The first deals with medicine in prehistoric times, the second with medicine in the world war and after. Both display the author's breadth of knowledge and his philosophical outlook. The whole outlook on medicine, particularly in regard to prevention, has so changed since the beginning of the present century that it is of extreme value for any practitioner to read the epitome of these thirty years in the section headed, "The Beginnings of Organized Preventive Medicine." The concluding section on cultural and social aspects of modern medicine will also be read with special interest by all who are concerned with the future of the medical profession. Not merely does it contain valuable information on recent medical developments in Soviet Russia and elsewhere, but the searchlight is turned on those problems which everywhere confront the profession on such matters as hospital policy, medical education and medical practice. "As we enter the machine age the salient fact about medicine is the trend toward socialization. The family doctor has been stripped of personal infallibility . . . and is so busy that he is apathetic or indifferent to the burning problems of the hour. One of these is the delegation of medical and hygienic problems to laymen, uninstructed either in medicine or science."

In a work of such uniform excellence it may seem captious to point to the one defect that this work shares with most American publications, in that it contains practically no reference to Australia. Granted that our medical history goes back comparatively few years, some passing reference might be expected to work already done here on hydatid disease, filariasis, plague, snake venom and to experiments in quarantine and other departments of public health. In the chronological tables the University of Melbourne is the only Australian institution recognised; the date of the founding of the Australian Commonwealth is omitted, although that of Canada is given. In a world history such omissions are regrettable. For the Australian reader, however, these defects are of minor importance as he has the necessary references handy.

During the past few years there has been evidence of a quickening of interest in medical history amongst medical practitioners in Australia. This new edition may be heartily recommended as a trustworthy reference book for the student searching for facts of medical history of other climes and in other times, and as a fascinating introduction for the reader who has not hitherto directed his attention to this particular field of medical study.

[1] "An Introduction to the History of Medicine," by F. H. Garrison, A.B., M.D.; Fourth Edition, Revised and Enlarged; 1929. Philadelphia: W. B. Saunders Company; Melbourne: James Little. Royal 8vo., pp. 996, with illustrations. Price: 60s. net.

DISEASES OF THE RECTUM.

"A MANUAL OF PROCTOLOGY," a book of 264 pages, now appears in its third edition.[1] For a purely trans-Atlantic text book it is rather unique in that unsparing recognition is given to the work and teaching of English rectal surgeons than whom no better are known to the medical profession. While the manual is undoubtedly intended for advanced students and younger practitioners, it can be read with profit by any rectal surgeon. The chapter on methods of examination and diagnosis is good and the advice given by Dr. Hill regarding the necessity for very thorough rectal and pelvic examination of the patient cannot be too strongly supported. We recall how very often early rectal cancer has been mistaken, until too late, for simple "piles." Curiously enough, on page 18 the author omits to mention that bright red blood at stool may occasionally be a sign of early rectal carcinoma.

In Chapter II no reference is made to the occasional onset of cancer of the recto-sigmoid junction with symptoms akin to those of an acute proctitis (the author adheres to the term "rectitis," though the title of the book is "A Manual of Proctology"), nor is reference made to the great relief often afforded in severe acute recto-sigmoiditis by elevation of the foot of the bed.

In discussing the causative factors of chronic recto-sigmoiditis the author states that he believes that a congenital narrowing of the gut opposite the upper valve of Houston is a factor in the production of the disease. Such a condition has certainly been observed, but it has been regarded as an effect rather than as a cause of the disease.

In Chapter IV, in dealing with ulcerative colitis, the author describes at length the symptomatology and pathology of the hæmorrhagic form, but fails to do little more than mention the other and commoner forms.

In the section on rectal abscess much stress is very rightly laid by the author upon the urgent necessity for the early and adequate drainage of such abscesses in an endeavour to forestall the subsequent development of fistula, a sequel all too common, even nowadays. This chapter (VI), which is devoted to rectal abscesses, contains a wealth of good advice, as also does Chapter VII, dealing with the treatment of fistulæ. Probably the best written chapter in the manual is that which deals with cancer of the rectum. Herein full tribute is paid to the epochal work of W. Ernest Miles, of London, in teaching the mode of lymphatic spread and dissemination of rectal cancer and perfecting the abdomino-perineal method of radical removal. In dealing with the difficult subject of *pruritis ani* the author has omitted any mention of treatment of the condition by means of a screened radium plate, which occasionally acts like a charm.

This book may be described as being well written by a thoroughly practical rectal surgeon and as containing good, understandable illustrations, but few grammatical errors, and a very good index. The book fulfils a want and can be confidently recommended.

[1] "A Manual of Proctology," by T. Chittenden Hill, Ph.B., M.D., F.A.C.S.; Third Edition, thoroughly revised; 1929. Philadelphia: Lea and Febiger. Post 8vo., pp. 272, with illustrations. Price: $3.50 net.

The Medical Journal of Australia

SATURDAY, JANUARY 3, 1931.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: Initials of author, surname of author, full title of article, name of journal, volume, full date (month, day and year), number of the first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction, are invited to seek the advice of the Editor.

RETROSPECT.

It is a good thing in every avenue of life to stand still occasionally and to look back, to note progress, to evaluate new discoveries, to recognize failure and ascertain its causes, to determine whether the attention devoted to different subjects has been justly apportioned or whether apathy or even somnolence has not been allowed to exclude any other consideration than personal comfort. To any one engaged in active medical practice the process of drifting is particularly easy. Attention is apt to be given merely to the problem of the moment and bodily weariness, mental stress and uncertainty as to how long leisure is likely to last may appear as sufficient excuse for complete inertia. In last week's issue an attempt was made to show that progress in the future depends on watchfulness, hope and a scientific outlook. This week we invite medical practitioners to examine themselves critically, that they may be satisfied in their own minds that their practice in the last twelve months has not been entirely by rule of thumb, that they have gained a better understanding of the nature of disease—in other words, that they are justified in expecting to make progress in the future. As with individuals, so must it be with groups, societies and associations.

During the past few years it has been the custom to attempt to review in these pages at the beginning of every year the progress made during the previous twelve months in the several Branches of the British Medical Association in Australia, in the universities of Australia, in hospital practice, post-graduate teaching and so forth, and also to recount the advances in the various branches of medical science. It has been decided this year to restrict comment to the first of these groups of subjects. It is impossible in the space available to give an adequate account of the new work in every scientific aspect of medicine. An attempt is made throughout the year to bring to the notice of Australian practitioners as much of the new work as possible either by abstract or editorial comment. For a concise summary of recent work medical practitioners are advised to refer to such works as the "Medical Annual," published in England, or the "Practical Medicine Series," published in America.

The Medical Profession in Australia.

It was pointed out in the Education Number of this journal, published recently, that the number of medical students enrolled in the Universities of Sydney, Melbourne and Adelaide has returned practically to the pre-war level. It cannot be held that the ranks of the profession are overcrowded. Within the last few months medical students have been doing the work of resident medical officers at some of the public hospitals in, at any rate, one State. Medical practitioners, in company with other members of the community, are admittedly passing through a difficult phase owing to the financial depression, but this phase will pass and in the meantime there can be no curtailment in the medical services rendered to the community. The supply of medical practitioners must be kept up. The numbers are continually being reduced by death and retirement of senior practitioners, new positions have been and are being created in the public services and the ranks of general practitioners are depleted by would-be specialists.

The British Medical Association.

Although the drafting of the constitution of the Federal Council for Australia has not been finalized, it has been advanced to such a stage that the

approval of the New South Wales Branch to one small clause only is necessary before the constitution is referred to the Council of the Association for final approval. It is very unlikely that there will be any difficulty about the final steps. The importance of this united action of the Australian Branches cannot be overestimated. It is admitted that the powers of the present Federal Committee are limited, that when its action is invoked, it is slow moving on account of the limitation of its powers. When the Branches are controlled by the Federal Council, it will be possible for them to develop together along effective lines. The Federal Council will to all intents and purposes have powers analogous to those of the Council of the whole Association; it will be able to initiate necessary legislation for all the Branches. If the Federal Committee has done nothing else since it was created nineteen years ago, it will have more than justified its existence when the Federal Council is an accomplished fact.

The model rules for ethical procedure have been finally approved by the Council of the Association. It should be pointed out that these rules are not necessarily binding on the individual Branches, but may be accepted by them.

The Branches in the several States continue to increase in membership. The annual report of each Branch reveals an activity and an interest on the part of members that are most encouraging. From time to time complaints have been received at the office of this journal about the poor quality of some of the articles published after having been read at Branch meetings. This is, of course, a matter for the Branches themselves. The mistake is sometimes made of allowing members to offer papers; refusal may be difficult. It is a much better plan to arrange meetings at the beginning of a year and to invite contributions from certain members. This is the only way in which it is possible to receive the message of the man who has one to deliver, and to eliminate the member who talks either to advertise his presence or to hear his own voice. If a paper is worthy of being read at a Branch meeting, it should be worthy of being published in the journal that is the property of the Branches.

The New South Wales Branch has celebrated its jubilee and was the recipient of congratulations from all parts of the Commonwealth. At the same time its new home has been formally declared open by His Excellency the Governor of New South Wales. This building, recently described in these pages, is well suited in every way to be the home of the Branch and is one of which the citizens of Sydney may be proud.

Australasian Medical Congress (British Medical Association).

The transactions of the third session of the Australasian Medical Congress (British Medical Association) have been published and the invitation of the Western Australian Branch that the fourth session should be held in Perth has been accepted. Dr. D. D. Paton has been elected as President and the Executive Committee has commenced its work. Every effort will be made to secure a large gathering in Perth in the Spring of 1932.

The Universities.

The most important event in 1930 in the Faculty of Medicine of the University of Sydney has been the appointment of the Bosch Professors of Medicine, Surgery and Bacteriology. Reference has been made to these appointments on several occasions in these pages. The new professors have arrived in Sydney and will take up their duties early in 1931. Considerable interest centres around the appointments to be made to the staffs to assist the new professors. It is to be hoped that the professors will not be hampered in any way in the choice of their assistants, either by attempts at outside interference or from lack of funds.

Professor F. Wood Jones has taken over the Chair of Anatomy at the University of Melbourne. He has stimulated scientific thought in Melbourne and his lectures on scientific subjects both in Victoria and other States have been more than appreciated.

Dr. H. J. Wilkinson, whose researches into the innervation of unstriped muscle were published in this journal, has accepted the Elder Chair of Anatomy in the University of Adelaide.

It is a matter for regret that complete agreement has not been attained by the three universities in regard to higher degrees in surgery. Considerable advance has been made, however, and we do not

despair of final uniformity being attained in the years to come.

Post-Graduate Work.

Great satisfaction is felt at the arrangements being made in London for post-graduate teaching at the Hammersmith Hospital. Further reference will be made to this matter in a subsequent issue.

In Australia post-graduate teaching is receiving more and more attention. Each of the States has provision for post-graduate teaching and useful work has been done. What is needed at the present time is coordination of the activities of the several committees and their cooperation in regard to visits of lecturers from other parts of the world.

The arrangements that have been made with the Royal College of Surgeons of England by the College of Surgeons of Australasia for the holding of the Primary Fellowship Examination in Australia are a matter for congratulation. The opportunity afforded to young graduates of sitting for this examination has already been grasped by many who have notified their intention of being candidates. By this means another link has been forged between Australia and the home country.

Hospitals.

To discuss the present position of hospital practice in Australia would take a whole issue of this journal. The whole question is more or less in the melting pot. An important and able contribution to the subject by Dr. David Embelton was published in this journal on September 20, 1930. It is a matter for regret that this did not evoke discussion; we feel, however, that Dr. Embelton's work will yet bear fruit.

The settlement of the long drawn out hospital dispute in Hobart has been referred to on several occasions. The medical practitioners of Hobart have the good wishes of their *confrères* in all the other States that the present arrangements will work amicably and be productive of good work.

The report of the Royal Commission on Hospitals in Queensland has been received; reference will be made to it in the near future.

Conclusion.

From what has been written of the various aspects of medical practice in what may be called a corporate sense, it is clear that the members of the British Medical Association in Australia have not been idle during 1930. Progress during 1931 may be confidently expected and will surely be made.

Current Comment.

CATHETER FEVER.

CATHETER fever has been recognized ever since the day an instrument was first passed into the urethra. Some observers have declared that it is due to a nervous reflex and that its initial rigor is merely an exaggeration of the physiological shiver which frequently accompanies the act of micturition. Others have remarked that it does not occur if there is no interference with the prostatic portion of the urethra. Others again have recorded their belief that toxic absorption is the cause, while more modern thought has had a definite tendency towards the acceptance of the view that the ætiological factor is the bacterial invasion of the blood stream through the damaged urethral wall. Evidence in support of this theory is provided by the results of investigations carried out by F. J. F. Barrington and Hedley D. Wright.[1] All observers have noted that the rigor of catheter fever is very apt to occur shortly after the first act of micturition following operation on the urethra. Partly on this evidence, Barrington and Wright conclude that the urine is the source of the offending bacteria. They point out that, if the urethra and bladder of an individual, subject to catheter fever, be irrigated before or after the passage of instruments, rigors are much less likely to occur. They made bacteriological investigations of the urine and blood of eighteen patients who were subjected to twenty-three operations. In four instances in which examination was made before operation the blood was found to be sterile. After operation, organisms were cultured from the blood in thirteen instances, though frequently the blood had been taken within a few minutes of the performance of the operation. In three instances the blood had been found sterile before operation. The *Bacillus coli* was the organism most frequently observed. As proof that the cultures were not due to contamination, Barrington and Wright mention that on no occasion was *Staphylococcus albus* or a spore bearing Gram-positive organism grown.

The evidence put forward by Barrington and Wright strongly favours the theory of the bacterial causation of catheter fever, but it is not conclusive proof, as organisms were found in the blood in the absence of fever and were not always found when fever was present. However, it would certainly appear to be worth while, when conducting any procedure entailing injury to the urethra, to act on the assumption that catheter fever is due to a bacteriæmia.

[1] *The Journal of Pathology and Bacteriology*, October, 1930.

Abstracts from Current Medical Literature.

THERAPEUTICS.

Septicæmia.

R. MIGNOT (*La Presse Médicale*, May 10, 1930) discusses the modern treatment of septicæmia. The focus of origin must be sought and dealt with, if found. The production of a fixation abscess by injecting one or two cubic centimetres of turpentine into the outer side of the thigh may lead to cure if used early. If an abscess does not develop, the prognosis is bad. Nucleinic acid or nucleinate of lithium (physiosthenine), twenty cubic centimetres injected subcutaneously each day, may induce a leucocytosis with beneficial results. Injections of colloidal silver, animal serum, milk or 5% peptone solution, to produce "*choc colloidoclasique*," should be used with great caution. Autohemitherapy is allied to the above method and is safer. Ten cubic centimetres of blood are withdrawn from the patient's vein and injected at once into the muscles of the buttock, ten injections are given, one every second day. When the organism is known, serotherapy may be invaluable; against the meningococcus, *spirochætosis icterohæmorrhagica*, anthrax and gonococcus, specific sera are effective. Antigangrene serum and Vincent's anticoli bacillus serum have been proved to be valuable. Antipneumococcus serum is less certain, but may do good. Antistreptococcic serum has been disappointing. H. Vincent has recently introduced a serum, antistreptococcic and antitoxic, with which good results are claimed, especially in severe erysipelas. Vaccine therapy is of doubtful value. Transfusion of blood, two hundred to three hundred cubic centimetres every third day, has yielded results in slow running septicæmias with anæmia. Immunotransfusion, which is a transfusion of two hundred to four hundred cubic centimetres of blood from a donor who has previously been given a vaccine prepared from the organism causing the infection, has also its supporters. Twenty cubic centimetres of a 5% solution of sodium salicylate in 10% glucose serum given once or twice a day into a vein may be tried. "*Septicémine*," a combination of formine and iodine, has a powerful antibacterial power; two to five cubic centimetres of a 25% solution given intravenously twice a day, are said to do good in puerperal and coli bacillus septicæmias and in pyæmia. Arsenical preparations given intravenously are of doubtful curative value. Methylene blue and gentian violet have been used intravenously with uncertain results. Mercurochrome, 25 cubic centimetres of a 1% solution given intravenously, has been used in staphylococcus and coli bacillus septicæmias with success; it is repeated every two or three days for several doses; it produces considerable shock. Acriflavine in 2% solution has been given intravenously in many varieties of septicæmia with reputed good results; if the kidneys are sound, no ill effects are noted. "Optochin," a quinine derivative, has its supporters for pneumonia and early stages of septicæmia. "Yatren," given intravenously or intramuscularly, is widely used in Germany and is reported efficacious and free from toxic effects. Careful consideration of the individual patient is necessary always, and careful nursing on general lines must be maintained whatever other treatment is employed.

Achlorhydria Gastrica.

W. D. SANSUM AND P. A. GRAY (*California and Western Medicine*, April, 1929) present a preliminary report of fifty patients in whom gastric analysis revealed a subnormal amount of free hydrochloric acid to be present. The standard Ewald test meal was used in forty-two instances and seven patients were studied by the fractional test meal, while the findings in six cases were checked by the alcohol test meal with fractional aspiration after a preliminary standard Ewald test meal had revealed an achlorhydria. In all, fifty-five analyses were performed. The following symptoms were noted: Abdominal distress, diarrhœa, abdominal distension, constipation, weakness and alternating attacks of vomiting and diarrhœa. Anæmia was also noted, but patients suffering from pernicious anæmia were excluded from this study. The blood pressure readings were uniformly low throughout the group. The analysis of the stools practically always revealed undigested food particles of which starch and fat were the most frequent. The usual method of treatment in these cases is to administer dilute hydrochloric acid and pepsin, but the authors found that the administration of citric acid was equally efficacious and less likely to be followed by acidosis and hypertension. In the earlier cases a citric acid-pepsin mixture was used, but this proved too strong for the average patient and was discarded in favour of the citrus fruits, especially lemon and grape fruit. The authors instruct their patients to take grape fruit for breakfast or with one of the other meals. The grape fruit should be eaten first. Sixty cubic centimetres (two ounces) of lemon juice well diluted with water or 180 cubic centimetres (six ounces) of grape fruit, likewise well diluted with water, should be taken with the other meals. A part of the fruit juice should be sipped before eating any food and the remainder sipped during the meal so that all of the food is mixed with the acid. The grape fruit and fruit juice may be sweetened with sugar, as this does not neutralize the acid. The authors report that this simple procedure has produced great improvement in forty-seven out of the fifty patients, some of whom have been under observation for two years. Discussing the cause of diarrhœa and abdominal discomfort, of which these patients complain, they state that this is due to imperfect digestion of the food caused by too rapid emptying of the stomach and inadequate secretion of the pancreas.

Lead Therapy.

LEILA. CHARLTON KNOX (*American Journal of Roentgenology and Radium Therapy*, March, 1930) reports upon the treatment by the administration of colloidal lead, of sixty patients suffering from malignant disease. Many of these patients received deep Röntgen therapy simultaneously. The report covers a period of two years of experience with the method. She concludes that colloidal lead has been and will be effective in prolonging the lives of some patients with malignant disease. Rarely a permanent cure may be expected. In general, a patient fit to undergo the treatment should be relatively young, not anæmic, nor cachectic, nor with extensive metastases. The morphology of the tumour is not a guide to the probability of its susceptibility to lead therapy. Röntgen rays and lead together have probably more effect upon the neoplasm than either of these used alone. The treatment is too prostrating and may be too hazardous to justify its use as a prophylactic measure. These results, as well as those of others who have used colloidal lead extensively, justify its occasional use when patients have been carefully selected and when adequate resources are available for meeting complications.

Lead Poisoning.

SANFORD WITHERS (*American Journal of Roentgenology and Radium Therapy*, August, 1930) declares that there is one feature which stands out more than all others in the use of lead for hopeless malignancies. In order to cause a retrogression of the growth it is necessary to produce an acute lead poisoning. Gastro-intestinal pain, with colic, inability to retain food or fluids, and diarrhœa with extreme prostration are among the chief symptoms. Muscular pains, chiefly affecting the muscles of the back and the thighs and less frequently the arms and forearms occur. Neurological changes which depend somewhat upon the temperament of the individual and which vary from wrist drop to maniacal insanity, are seen. Blood changes occur which at first are not profound, but which later usually result in a drop in the hæmoglobin content and the number of red cells of 30% to 50%, with typical changes in the red blood cells consisting not only of the classical stippling, but also a much earlier change which gives the affected cells a bluish cast. The change in the kidneys in acute lead poisoning is not so prolonged as most writers believe. Acute nephritis accompanied by transient hæmaturia with large amounts of albumin and a tendency towards suppression of urine is not at all rare, yet in the author's series it was not troublesome.

It is not frequently found that the patient's phenolsulphonephthalein excretion increases noticeably after acute lead poisoning. The author concludes that mobilization of injected lead is essential if favourable results are to be obtained. The best criteria for estimating the degree of mobilization are determinations of the carbon dioxide combining power of the blood and the hydrogen ion value of the urine. There is no satisfactory method of producing mobilization of ingested lead. The use of large amounts of alkalis by mouth, *per rectum* and intravenously is indicated when rapid demobilization is desired. Of 64 patients suffering from apparently hopeless malignant disease treated by the administration of colloidal lead, 16 were still alive at the time of writing, after an average period of eighteen months from the commencement of treatment.

NEUROLOGY.

Second Report on a Lamarckian Experiment.

WILLIAM MCDOUGALL (*British Journal of Psychology*, Volume XX, 1930) shows that he has now trained twenty-three generations of rats to the performance of a specific task and finds proof that with successive generations there is progressive facility in performing this task. He estimates that while rats of control stocks average about 165 errors, rats of the twenty-third generation of trained stock average only 25 errors. The average degree of facility shown by any group of rats is mainly a function of their genetic constitution. There appear to be two ways only in which change of constitution as presented by rats of trained stock can be produced: First, by selection of such variations or mutations as may arise in the direction of such change; secondly, by transmission of modifications acquired in the course of training. Any action by selection seems improbable. It appears much more likely that transmission (Lamarckian) is a real process in Nature. The proposition is submitted that if continuance of the experiment, combining training with strongly adverse selection, should result in steadily increased facility, the reality of Lamarckian transmission will have been proved.

Indian Hemp Insanity.

J. E. DHUNJIBHOY (*Journal of Mental Science*, April, 1930) writes that in India hemp drugs produce a special form of mental disorder represented by acute mania, chronic mania and dementia, the difference in these forms being only a matter of degree. Intense excitement, grandiose ideas, tendency to wilful violence and destruction, a peculiar, almost pathognomonic eye condition consisting of congestion of the horizontal conjunctival vessels, total amnesia of all events, with an attack of short duration and a history of the drug habit, proclaim the diagnosis in an acute case. The writer puts Indian hemp above alcohol, opium and cocaine as a cause of insanity in India. He also states that in the case of psychopaths and neuropaths the drug plays a secondary but not unimportant rôle.

Myoclonic Myopathies.

EGAS MONIZ (*Revue Neurologique*, May, 1930) after mentioning myoclonic conditions resulting from cortical and nuclear brain lesions, as so often seen in cases of epidemic encephalitis, draws attention to another form which he thinks might be myopathic in origin. Two examples came under his observation. The first was that of a man fifty-nine years of age, who gave a history of an attack of "infantile paralysis" affecting the whole right side when three years old. But as this was almost wholly recovered from, its bearing on the subsequent condition seemed doubtful. Anyhow, not until he had reached the age of twenty-seven years did myoclonic spasms begin in the calf of the right leg (previous infantile paralysis), and four years later the calf of the left leg (previously normal) was similarly involved. This affection persisted for no less than twenty-eight years. The contractions were painless, occurred at the rate of forty-five to fifty-five per minute, persisted during sleep and only in later years impeded locomotion. The second subject was a man of twenty-four years, affected for two years by clonic contractions in the right calf and sometimes the *biceps cruris* muscle. In both these cases the affection differed from Friedreich's paramyoclonus inasmuch as the contractions were not influenced by emotion, not generally distributed, did not cease during sleep and were rhythmical. Moreover, biopsy of the calf muscle showed hypertrophy of fibres and an excess of nuclei, whereas in the only case of Friedreich's myoclonus which has come to autopsy there was no positive finding. It was concluded that the myoclonus in these particular cases might have had its origin in a muscular lesion, probably by action upon the peripheral nerves.

The Anterior Cerebral Artery and its Syndromes.

MACDONALD CRITCHLEY (*Brain*, July, 1930) discusses the anterior cerebral artery and its relation to various syndromes. He opens this paper with accounts of the comparative and human anatomy of the anterior cerebral artery. He goes on to say that, viewed phylogenetically, this artery is intimately bound up with the development and regression of three separate structures, namely, the rhinencephalon, the *corpus callosum* and that portion of the motor cortex subserving leg movements. Clinical symptoms will vary with the site of affection, but, on looking over the results of thrombosis of the artery at various points, three symptoms stand out by reason of their frequency. They are: Paralysis of the leg, because the artery supplies the paracentral lobule; psychomotor disorder in the ipsolateral upper limb, of the nature of forced grasping and groping, perhaps due to affection of the hinder end of the superior frontal convolution; and ideomotor apraxia affecting the left arm, whether this limb be ipsolateral or contralateral, due to involvement of the *corpus callosum*. On these signs diagnosis of a unilateral thrombosis may be made. Bilateral affection of the arteries may also arise and may be suggested by a sudden weakness of one leg, followed later by a sudden weakness of the other. One vascular lesion, however, which, in its clinical features, closely resembles occlusion of the paracentral artery, is thrombosis of the vein of Rolando, and here also injury to the superior longitudinal sinus, as from gunshot wound, may be mentioned. Aneurysm of the anterior cerebral artery, a fairly frequent condition, cannot with confidence be either lateralized or localized.

Nervous and Mental Disease Among Ex-Service Men.

PHILIP B. MATZ (*American Journal of Psychiatry*, May, 1930), of the United States Veterans' Bureau, Washington, makes an estimate to determine the future incidence of nervous and mental disease in the ex-service population. His figures show that in the United States Army the number of veterans of all wars affected with nervous and mental disease as on January 1, 1929, was 20,378 (World War, 18,393; Civil and other wars, 1,985). The expectation is that this number will increase yearly until January 1, 1946, when the total will be 41,917. Hence it appears that the probability of any ex-service man incurring some form of nervous or mental disease increases up to approximately the fortieth year of age, after which there may be a gradual decline.

Landry's Paralysis.

F. GOLDBY (*Journal of Neurology and Psychopathology*, July, 1929) has analysed forty-one cases of Landry's paralysis, three personally observed, the rest reported by others. He finds that cases of acute ascending paralysis (Landry) can be divided clinically and anatomically into three groups—a poliomyelitic group, a polyneuritic group and a group which shows little or no *post mortem* change and no constitutional reaction. A high mortality and a preponderating incidence among young adult males are characteristic of the whole series. Although these cases can be differentially grouped in this way, they have no common ætiology. Landry's paralysis is a syndrome probably caused by a toxin exerting its influence through the blood stream, and more or less closely related on the one hand to a group of cases in which the palsy is simply a variety of multiple neuritis and on the other to a group best described as cases of infective poliomyelitis.

Special Articles on Diagnosis.

(Contributed by Request.)

XXVI.

DIATHESIS: GOUT, TUBERCULOSIS, CANCER.

DIATHESIS may be defined as a particular condition or habit of body, especially one predisposing to certain diseases. It may also in a way connote a habit of mind, but most of us use it as a rule only in the somatic sense. Dyscrasia means pretty well the same.

Temperament is a vague term, but it means much. I would limit it to the possession of certain mental, and to a less extent, physical characteristics, so that the possessor responds in special ways to stimuli, intellectual or physical.

I think I am right if I say that an interest in diathesis as a feature of clinical inquiry is less prominent in the minds and observation of the newer generation of doctors than in those of the past. Surely our medical forbears of thirty to a hundred years ago paid more attention to the matter and, as I think, to the benefit both of their diagnostic and therapeutic powers.

Moreover, attention to diathesis gave an added interest to the daily work of an intelligent practitioner. Not only did a study of the subject help him in his diagnosis of the individual case, but an interest was added by the observation of men and women seen throughout the ordinary day of social life in the community in which he practised. For not only might he think of the actual patient before him, but his thoughts might righly project themselves into the past, and the heredity of the condition come before his mind's eye, for

> Born into life, man brings a bias with him here,
> And blends his parents' blood, as those of theirs is blent in them;
> So each new man strikes root into a far fore-time.

But however much our predecessors looked for and dwelt on diathesis or "constitutional habits of body," and they sometimes dwelt too much, we, in these present days, when we amuse ourselves with "spot diagnoses," must carefully distinguish, when we come to treat a patient, the diathesis from the actual present substantive malady. I mean that though all the stigmata of, say, a gouty constitution may stare at one with clamant eyes, we must not run away with the idea that the actual active lesion is necessarily an expression of gout. In my early years I have occasionally seen worthy old doctors let acute maladies drift to immedicable tragedy just because they were obsessed by the diathetic verities of the patient's aspect, and forgot the acute intercurrent disease.

Gout.

I spoke of gout just now, and in truth gout is perhaps one of the diseases in which diathetic signs are most strongly marked both in features and amenability to treatment. In such cases ordinary measures in ordinary maladies may produce little benefit till the constitutional dyscrasia is dealt with as well. No pen-picture of the gouty type is adequate or convincing without the skill of the artist, not necessarily a medical artist, for you can see the facies of gout in faithful pictures hung in many a gallery. Even so recently as in a *Punch* of this year I saw an admirable presentment of a gouty old man, and the letterpress showed that the artist knew what he was successfully drawing. My old master, Grainger Stewart, used to tell us with Protestant gusto how he recognized gout and "the bright eye of Bright's disease" in pictures in Italy of long dead popes.

It is not easy to compress into a short compass all that one would wish to say about the gouty diathesis, its characteristics and its reaction to injury or special drugs, yet the matter is well worth study, though I fear I am about to do so in rather haphazard fashion.

A well marked gouty type is not difficult to recognize. Mostly are the subjects of it well nourished, high-coloured folk, often with dilated capillaries on their faces, with full lips and rather thick noses. Podagra is a name for gout and tells itself of its common manifestation in the feet. Probably four-fifths of first acute attacks occur there, but it might almost as well have been known as chiragra, for, in the hands, may one see many signs of its presence.

Not only are pains in the knuckles complained of, but other visible changes there are seen. Tophi, of course, in long cases are common, but look for little rounded swellings called Heberden's knobs (although I fancy Heberden did not associate them with gout). They are due to alterations in the heads of the bones rather than to changes in the soft structures of the joint. Look for bursæ or little tiny cysts, and do not open them if you can avoid doing so.

Dupuytren's contraction, if present, is often taken for a sign of gout and I think rightly so in many cases, but by no means always. I think longitudinal striation of the nails is frequently present, but do not mistake it for the transverse furrow which is often a sign of a recent exhausting illness, most marked in the thumbs. It has its analogue in the vegetable kingdom, when in timber the poorly marked concentric ring of growth marks the incidence of a lean year of drought. People with well marked simple Heberden's knobs seem to escape getting florid attacks of gout. These knobs are to be distinguished from the nodosities of Haygarth which are really exostotic growths from the margins of the articular surfaces as well as from the periosteum in the region of the diseased joints. These outgrowths and a marked ulnar declension are the signs of rheumatoid arthritis, but not gout. Nowhere better are these points described than by George Balfour, the uncle of R. L. Stevenson, in his "Senile Heart," a book full of wisdom, where in a few commonsense sentences he sums up the features and prognosis of non-diabetic glycosuria, especially as an incident in gouty cases and, remember, in words written over forty years before "blood sugar tests" or "lowered renal thresholds" or "renal diabetes" (which is a hateful term) were matters or expressions used in medicine.

Without frank decay, the teeth of the gouty are often friable, show cracks and, above all, wear down out of proportion to the years of the patient. Gouty people often grind their teeth, which may partly account for their early senescence.

As one might expect, their tongues are often white or show bare-looking purple patches—I suppose due partly to the concomitant dyspepsia often present. These people have long uvulas. By all means snip them off if you wish, but not quite by their roots. Some of these folk have an irritable pharynx, made worse by trifling stimuli, and they may also complain of a neuralgia of the tongue which they think presages cancer, which it does not.

With regard to definite tophi, you are not likely to miss them wherever they are situated, but look specially to the hands and lobes of the ears.

Turning from the visible signs of gout to the complaints of the patient, every structure or even every function seems to have its separate woe, excepting perhaps the lymphatic system, which seems less often affected. You will be told of all sorts of aches and pains, but note especially pain in the heel and less so in the knuckles, but both are most suggestive of a gouty origin.

Pains, too, follow the ingestion of certain articles of food or drink. I have known a single glass of port to start pain somewhere almost at once in a man I knew to be gouty. "Fidgets" too and sciatic pain are also quite common, as also are local patches of paræsthesia, such as "hot burning" over a limited skin area. Look also for curious "twittering" of certain small superficial muscles. I think this is most often noticeable between the thumb and the forefinger. I have been told that this little sign sometimes precedes an outburst of frank gout. Skin affections, notably eczema, and bronchitis are quite common, and do not readily yield to treatment without constitutional remedies. They are not unmixed evils, for they seem to be vicarious outlets, and I well remember

doing my best to cure a gouty old woman of the former, and when I had succeeded she got a fierce outburst of articular gout and cursed me in Doric for giving it to her!

Gouty people easily get cystitis. Why, I am not sure. In old men it may have to do with prostatic trouble, in women it is not so easy to explain it. Sometimes, I suppose, it is due to an ordinary *Bacillus coli communis* infection, but at other times the "irritability of the bladder"—I used this vague term purposely—is due to a highly acid urine, and the presence in it of what our fathers called "a lateritious sediment in the urine which makes an indication to the most unobservant of the gouty diathesis." One swallow does not make a summer, so one should refrain from diagnosing gout because an old woman has bronchitis or dyspepsia or scalding urine. But if she has a succession of small ills, without obvious cause, and antilithic remedies relieve her, it is not foolish to think she is of the gouty constitution. The list, indeed, of such lesser troubles or peculiarities suffered by the gouty is legion, and I fear I forget as many as I remember.

Gleet, usually a long stayer, persists curiously in the gouty and I believe that a simple non-gonorrhœal gouty urethritis does exist. Eczema, and especially herpes of the *glans penis* and vulva, are all fairly common, even where there is no glycosuria. Erections are often troublesome.

Patients may outlive their constitutional tendencies or hereditary defects. In tuberculosis, indeed, it is pretty safe, from a life insurance point of view, to regard personally healthy proponents over forty as select risks, where a father or even a mother has died of tuberculosis. So also with the neurotics, at least in women who have outlived their early bursts of neuroticism, for it is rare to find after fifty any nervous imitations of organic disease. Not so in the gouty or rheumatic, who seldom outlive their inborn dyscrasias.

A point worth remembering is that an operation or an injury may bring out an attack of gout, but of itself need not prejudice a recovery from either traumatism, unless the dyscrasia has already led to renal or cardio-vascular organic changes. This shows, as Paget said years ago, how nearly balanced, in gouty people, is the condition of health or disease, and so traumatism upsets the balance and an outfly of the constitutional disease is precipitated. An error of diet or worry may act in the same way. It is well to remember that the gouty may react unpleasantly to certain forms of therapy. For instance, if you apply arnica, a drug formerly in great vogue, to a gouty patient, as likely as not the result will be an acute dermatitis. Remember, too, not to let the tense tempting aspect of an inflamed gouty joint lead you into leeching or cupping the part, for evil may follow. I have never been able to rid myself of a fear, justified as I think, of applying cold to an acutely inflamed gouty joint. Vague old-world terrors oppressed me that I might "drive it in," or "provoke metastasis" or "suppressed gout," and to this day bring visions of all sorts of vascular accidents or strange visceral manifestations of this ancient malady. It used to be difficult, in the days when gout was still common, always to satisfy patients with a suitably worded diagnosis for each and all of their varied symptoms and complaints. Good Oliver W. Holmes said that the most satisfying and comforting opinion to give in such cases was to say that there was "a congestion of the portal system." A variant of this in the mouth of a successful but not learned doctor of an earlier Sydney was an "irritation on the liver." This gave as much peace to the less sophisticated patients of long ago as spiritually did the use of that blessed word "Mesopowtawmia" of "our brother doctor of the soul"!

I suppose all of us dwell at times on the medical histories and causes of death in the case of famous personages. Charles Maclaurin did it indeed to some purpose, for he gave us many essays on the subject, interesting and instructive even when we were unable to agree with all his conclusions. Lately I have been reading a good deal about John Dryden and naturally his health and the manner of his end interested me professionally. On the whole my reading inclines me to believe that he was gouty and most probably had sugar in his urine. I do not dogmatize on the matter. Concerning his actual end, I came upon quite a clear account in that quaint survey of the Bohemian London of 1700 as set forth in the pages of the "London Spy," written by one Ward, a superior publican. It rather confirms me in my vague opinion that Dryden was quite likely a gouty glycosuric. But after two hundred and thirty years our diagnoses are mostly queer work. However, I have twice seen exactly the same sequence of septic trouble make an end of two gouty people with sugar in their urine. At any rate Ward's story of the last illness is worth telling:

> The cause of his (Dryden's) death (says our gay London tavern-keeper) being very remarkable, it will not be improper in this place to take notice of it, as a means to put the world in mind of what slender accidents are sufficient to change the state of man and hurry him into the darkness of Eternity. The occasion of his sickness was a lameness in one of his feet, springing from so trivial a cause as the flesh growing over one of the toe-nails, which being neglected, begot a soreness, and brought on inflammation of his toe; and being a man of gross body, a flux of humours falling into the part made it very troublesome, so that he was forced to put himself into the hands of an able surgeon (this was Sir Richard Blackmore, the poetical doctor), who, foreseeing the danger of mortification, advised him to part with the toe affected as the best means to prevent the ill consequence likely to ensue. This he refused to consent to, believing a cure might be effected by less severe means than the loss of a member, till at last his whole leg gangrened; this was following by a mortification, so that nothing remained to prevent death but an amputation of the member thus putrefied. He refused to consent to this, saying that he was an old man and had not long to live in the course of nature and did not care to part with one limb at such an age, to preserve an uncomfortable life in the rest—and therefore chose rather to submit to death. A little time after, according to the foresight of his surgeons and physicians, this did unhappily happen.

This seems quite a good clinical report of the progress of a septic infection in a gross subject with poor resisting power for a London tavern-keeper of the time, or of our time for that matter, to have written.

The Scrofulous or Strumous Diathesis.

The scrofulous or strumous diathesis is a well known type, but most of us now rather say the tuberculous diathesis. But the two first terms were constantly in the mouths of medical men forty or more years ago. The name scrofula, of course, comes from scrofa, a breeding sow, and was specially applied to the adenitic manifestations of the disease. The laity knew the word well and resented it, and I well remember being taught never to use it before a mixed audience, but to say struma instead, as also to avoid the words cancer or syphilis, but to hide them by the use of malignant or specific disease. In earlier times this manifestation of tuberculosis was called, as we all know, "the king's evil" and sufferers were believed to be cured by being touched by the sacred hands of the king or queen. Dr. Samuel Johnson was so treated by the hands of Queen Anne. "Disease and superstition thus stood by his cradle" and no wonder perhaps that he grew up to be the odd, somewhat repulsive personality which Boswell's pages and the brushes of Reynolds and Bray have made so familiar to posterity.

Charles Maclaurin, whose medical historical essays have so often charmed historically minded doctors, takes a view of Johnson which I am unable to follow. To begin with he regards him as an example of psychasthenia, whatever that term exactly connotes. I will leave the question of the correctness of this view to the alienists, but I must really differ when he brushes aside the diagnosis of scrofula and trusting to some vague hints of Boswell, thinks that the child Johnson "caught something from a nurse" and concludes that the adenitis was the result of "something

in his scalp." For my part I frankly accept the old story that Dr. Johnson was scrofulous, and I put him down as a quite good example of a sufferer from the coarse pig-like type of early glandular tuberculosis—the very reverse in appearance of the fragile, other worldly and sometimes beautiful type of the tuberculous diathesis, of which I perhaps may be allowed to imagine that Tennyson's "May Queen" was an example.

In mid-Victorian days the cult of fragility was quite a vogue, and girls of that kind of sickly loveliness are often written about in the prose fiction and poetry of that period. They are young people with slight or frail configurations, bright, luminous eyes, strongly marked eyebrows, a high colour, a poor thoracic development, and often clubbing of the finger ends and curved nails. They often have a peculiar kind of rather coarse auburn or coppery hair, with rather excessive growth of very fine hair on the back. Muscular irritability may be noticed on tapping, but in truth they are often "passing fair." It was, I think, one of such a type and look "who heard the angels' call" on that wild "March morning" about whom the laureate sang so sweetly. Dr. Maclaurin thought that Johnson was made the queer fish he was by the emotional strain of being "touched" by large, kind, stupid Queen Anne, who, by the way, was herself almost surely syphilitic. This note may be of interest as bearing on the question of Anne being a syphilitic.

> In the vault in which lie buried Anne Hyde, daughter of Lord Clarendon, first wife of James II and mother of the two last Stuart queens, lie also the body of Mary, Queen of Scots, and that of Elizabeth of Bohemia, ancestress of the line to supplant her father's house. Above and around in every direction, crushing, by the weight of their small coffins, the illustrious dust beneath, lie the numerous children of James II who died in infancy—six sons and five daughters—and the eighteen children of Anne, dying in infancy or still-born, ending with William, Duke of Gloucester, the last hope of the race—thus withered, as it must have seemed by the doom of Providence.

Dr. Maclaurin suggests "that Johnson's frightful jerkings and grimaces, roarings and puffings may be traced back to that one moment of nervous tension when he felt himself the observed of all, waiting to be touched." Of this adventure at the regal out-patient clinic, Johnson himself says that he had "a confused, but somehow a sort of solemn recollection of a lady in diamonds and a long black hood." As he and his mother returned home in the stage coach he records that "we were troublesome to the passengers. I was sick. One woman fondled me, but another was disgusted." I can quite believe it, but I cannot believe that this one event in a child's life made Samuel Johnson the grotesque, eccentric, kind, learned, dirty and smelly old man which his contemporaries describe with more meticulous detail than I think was ever bestowed on anybody else's daily habits, table talk or table manners!

Johnson's form of struma is often of a coarse build with blobby common-looking features and a greasy skin. The cervical adenitis so often seen used formerly to pass on to suppuration, mixed infections, sinous formation and at long last, if the patient survived, ugly scarring. Often adenoids and unhealthy tonsils make a part of the picture and also irritated the affected glands.

The mucosa of the turbinate is swollen. Pharyngitis, proneness to catch cold, middle ear catarrh and festering fingers make the unfortunate little creature often a distressing picture of sick childhood which must not be mistaken for syphilis, for it is quite likely that it also has poor crenated teeth and various eye troubles as well. Of such a type do I think was Samuel Johnson.

Illness or injury may readily bring out some active manifestation of tuberculosis at almost any time of life, but, of course, most so in the earlier decades .

Measles or influenza may start pulmonary tuberculosis, as also has "gassing" after the Great War. A joint injury, harmless to a stout youngster, may light up tuberculous disease. Certainly, however, tuberculosis is a diathesis in which early vulnerability lessens, and, as I said, as the years pass the patient outgrows his morbific tendencies—in insurance language he is an improving risk. Happily, also, hereditary diseases or tendencies to disease tend to become diluted and lose their force in successive generations. There is also, of course, the wholesome influence of the usually, let us hope, non-tained parent, and likewise the "*vis medicatrix naturæ*"; otherwise families, no doubt, and possibly even races might peter out from hereditary disease.

The Cancerous Diathesis.

Is there such a thing as a cancerous diathesis? When I try, in a feeble way, to read some of the vast output of intensive work on the cause and treatment of this disease, I realize my own ignorance and I fear in this trifling paper even to express an opinion on the existence of a special diathesis. However, I must admit that after what I suppose has been a large experience, that I do associate the tendency to develop malignant disease with a special appearance which I think I am able to recognize. Not that persons whose looks are otherwise do not become cancerous, or that people who, to my eyes, look of the malignant type, do not live to a good old age, and die of some other disease. Nevertheless, I have repeatedly noted individuals or even families who had a particular brand of dark skin, an undue tendency to deposit pigment, and occasionally a slightly sinister aspect which I am unable to describe in words, but which I can recognize, who have, more often than their fellows, developed malignant disease of some sort.

The question of heredity in cancer about which widely different views are held, is indeed a difficult one, but my own clinical experience, combined with the known results of the experimental work of others, makes me still largely believe today many of the views held fifty years ago by Paget and others of his time. I still think that the children of cancerous parents are more liable to become themselves cancerous than the offspring of a perfectly cancer-free family tree. Probably the risk of the transmission of this hereditary tendency, if it exists, is more potent where the mother has been cancerous. So I am of opinion that in life assurance practice the offspring of parents who both died of cancer should have a small additional premium imposed. (If I had sufficient Irish blood in me I would add "especially if one of them was his mother.") I am of those who think "that a part which has long been the seat of constant or recurrent inflammation or irritation, is apt to become cancerous." So much for a local cause. "But," and I am again quoting Paget, "there are other cases where conditions other than local irritation (or injury) come in, to play an ætiological part." These factors he vaguely describes "as diffused, constitutional or inherited, and at their maturity ready to influence the appearance of cancer in any part fit for it." These ideas do not perhaps assist very much to illuminate the subject, but they are of some slight historical interest and may make the earnest worker of today smile in a kindly way. But to return to my subject: "Is there a cancerous diathesis?" On the whole, I think there is such. These potentially malignant types do not very frequently have the chance to outlive their suggestive appearance or their tendency to develop malignant disease itself, and this is so because not only is it a mortal dyscrasia in itself, but because, in one large division of malignant disease, it most often reaches its zenith by at least later middle life. I may also say too that another type of malignant disease has already killed off a goodly number of such diathetic people quite early in life.

Among the very old I have seen a few cases which favour the idea that some indeed may outgrow their chance of actual death by cancer. In other words, they outgrew and outlived their own cancers. One gets such a notion from the ultimate survival of patients in whom an apparently justified diagnosis of cancer has been made, say, of the colon. Later it was found that the mass disappeared, and so the impression remained that one had witnessed the obsolescence of a cancerous neoplasm.

I took the colon as an example of such a regional disappearance of a growth, but a general knowledge of the existence of the condition we all now know as diverticulitis,

which clinically may closely resemble a cancer of the bowel, makes me suspect we must all have made a good many wrong diagnoses in this connexion, and imagined a disappearing cancer, when it was only a diverticulitis behaving in a nice way. I may add that sometimes with the abdomen open and the mass in your hand it is hard to say whether you are dealing with a diverticulitic phlegmon or a neoplasm.

I used to half-believe that the spots of Campbell de Morgan were of some diagnostic value. Now I am less inclined to think so; but it is at least suggestive of the patient's disease, if obscure, being malignant in character, if there is suddenly a numerous appearance of these tiny nævoid spots.

Conclusion.

A constitution is a life-long affair, but there be different times and seasons for the manifestation of its special weaknesses and morbid tendencies.

Tuberculosis, as a rule, does its worst in early life, gout is most seen in the middle years, while carcinoma proper appears later in life. But there are many exceptions. Some forms of malignant disease make well known tragedies in childhood. Senile tuberculosis I have seen in the seventies, and in badly-tainted families the distressing sight of a gouty child used to be not unknown.

In putting together these random notes I have very largely drawn on the writings of others, medical and lay, and, with some exceptions, I have omitted, when I quoted, the usual signs of so doing.

I did so purposely, because they are annoying to the reader, but I none the less now make full acknowledgement to the various authors I have consulted, and they are as follows: Paget's "Surgical Essays," George Balfour's "Senile Heart," Hilton's "Rest and Pain," Charles Maclaurin's "Mere Mortals," Hollis's "Dr. Johnson," Johnson's "Lives of the Poets," Ward's "London Spy," Stanley's "Historical Memorials of Westminster Abbey."

R. SCOT SKIRVING,
Sydney.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE SOUTH AUSTRALIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at Clare, South Australia, on October 25, 1930, DR. C. E. WILSON, the President, in the chair.

Difficult Labour in General Practice.

DR. JAS. RIDDELL and DR. P. T. S. CHERRY each read a paper entitled: "Difficult Labour in General Practice" (see pages 8 and 12).

DR. T. G. WILSON, in opening the discussion, first congratulated the Branch on the success of the first meeting held in a country town and thought it particularly appropriate that the two papers read should have dealt with obstetrics, which was such an important subject for the country practitioner.

He also wished to congratulate Dr. Riddell and Dr. Cherry on the excellent papers they had read, and he said that he agreed with practically all the remarks that had been made by both speakers.

There were only a few points that he wished to speak on particularly. Dr. Riddell had mentioned the pressure that was often brought to bear on the practitioner to "do something" in a case of prolonged labour. Dr. Wilson had frequently pointed this out, and felt that it was a potent factor, especially in the case of a young practitioner who felt he was more or less on probation, and in such circumstances was sometimes over persuaded by the relatives to interefere in labour earlier than was advisable for the patient's ultimate safety, especially in the way of applying forceps *et cetera*. The tendency to send women to hospital for their confinements would probably minimize this risk to some extent.

In reference to the use of pituitrin *ante partum*, Dr. Wilson said that in prolonged labour one had to be pretty sure first of all that there was no likelihood of disproportion between the passenger and the passages, or any abnormal presentation present. This applied especially in the case of a *primipara*. He was not so worried about its administration to a *multipara*, but cited one instance when its use had resulted in rupture of the uterus of a *multipara* due to a persistent occipito-posterior presentation which had not been recognized. An emergency hysterectomy had been necessary because of this accident and the patient had come under Dr. Wilson's care later because of a resulting vesico-vaginal fistula which had proved very difficult to cure.

He agreed with what Dr. Riddell had said in regard to excessive pressure on the fundus for removal of the placenta and felt sure that this pressure had a definite influence in causing *prolapsus uteri*.

In reference to Dr. Riddell's practice of never using an intrauterine douche after intrauterine manipulation he joined issue. Possibly in a private house and under unsatisfactory conditions it might be wiser not to adopt this practice as a routine, but personally in a properly equipped hospital he always felt happier if he had used an intrauterine douche after manual removal of the placenta *et cetera*. He agreed absolutely with Dr. Riddell's remarks concerning *placenta prævia* in *multiparæ*, and felt strongly that the usual teaching of considering the life of the mother before that of the child was the correct one; in his experience the performance of Cæsarean section for this condition in a *multipara* was not as a rule justified. On the other hand, when an elderly *primipara* had an undilated cervix and a more or less complete *placenta prævia*, when she was in suitable hospital surroundings and when an experienced surgeon was available, he thought Cæsarean section was the method of choice for both mother and child.

Dr. Wilson said that he was not surprised at Dr. Cherry's remarks in reference to the opportunities for practical obstetrics for medical students, and he agreed that his word-picture of the conditions existing during Dr. Cherry's student days was true. But as the responsible head of the obstetric department at present he would not like the audience or readers of Dr. Cherry's paper to get the idea that such conditions still obtained at the Adelaide School. Up till ten or twelve years ago the only practical experience of obstetrics required before graduation had been the conduct of about twelve confinements, which had necessitated a residence at the maternity home for a period of about a fortnight. There had been very little antenatal supervision of patients nor postnatal care. This had all been changed and now students had adequate tutorial instruction before and during their term of residence in the maternity home. This period was at present of six weeks' duration and occurred during the fifth and sixth years. Attendance at both antenatal and postnatal clinics was compulsory, and the obstetrical tutors in charge of these departments devoted considerable time to this teaching.

He was glad to say also that within the last few weeks the Faculty of Medicine had agreed to adopt new regulations for the practical teaching of obstetrics, and now twelve weeks of the curriculum would have to be given up almost entirely to this subject. Preliminary tutorial instruction was to be given before the systematic lectures during the fourth year; residence in the maternity home for eight weeks during the fourth and fifth years, regular attendance at antenatal and postnatal clinics and attendances in the ward for regular clinical instruction would be required. The aim was to have the students living in an obstetrical atmosphere during this time and to give them every opportunity possible for receiving clinical instruction such as they received in medicine and surgery. Then in the sixth year, before the final examination, a "refresher course" of two weeks' duration in residence with intensive clinical instruction was to be given. This, combined

with their three months' practical gynæcology, their clinical examinations and case takings in both obstetrics and gynæcology at their final degree examination, should make a great difference to our students' ability to cope with ordinary obstetrical problems after graduation. The course outlined was, of course, in addition to the systematic lectures given in these two subjects.

The number of obstetrical patients actually to be attended personally by each student was laid down by the regulations of the General Medical Council as twenty. The inauguration of an Extern Midwifery Department in connexion with the Queen's Home would give senior students the opportunity of attending patients in their own homes under suitable supervision and ought to make the training more complete.

Dr. Cherry's remarks concerning the normal convalescence of patients who had been attended by nurses only in the home, seemed to be merely an indication of the truth of the present day teaching of the avoidance of interference with normal labour except under definite and defined conditions; but it had to be remembered that the patients who were attended in the public hospitals were almost invariably suffering from some condition requiring interference with the normal course of labour.

If students could be taught to recognize normal labour and to realize that interference was required only when there were indications for such interference, a great step forward would have been made.

DR. ROWLAND BEARD congratulated the two speakers on their papers which represented the sound and conservative attitude of British practitioners of midwifery. In his own practice he attempted to correct breech presentations when dealing with *primigravidæ*. The commonest cause of failure to correct the presentation was the existence of a frank breech presentation, that is, when the legs are extended at the knees. The frank breech was better left alone.

He regarded antenatal examination as extremely important. It enabled the medical attendant to be prepared for protracted labour and also to know that the proportionate sizes of head and pelvis were normal. In this latter instance he was able to inform the relatives that all was and would be well during the existence of that most important and trying condition, primary uterine inertia.

Abdominal and rectal examinations were most valuable during protracted labour.

He preferred to restrict the use of pituitrin to the induction of labour and the period immediately after the completion of the third stage. If under exceptional circumstances it were used for the purpose of accelerating delivery, it should be administered in a dosage of 0·5 cubic centimetre.

Fortunately, when the placenta remained within the uterus it was most frequently merely retained and not adherent. Dr. Beard advocated leaving the retained placenta for as long a period as possible when there was no bleeding. When he found it necessary he removed the placenta by grasping its bulk in the hand within the uterus, twisting it free while he made pressure with the other hand on the fundus. The placenta was examined before the hand was withdrawn from the vagina. If the placenta were found to be incomplete, he explored the uterus without the necessity of withdrawing the hand from the vagina. He regarded a uterine douche as valuable, providing asepsis could be guaranteed. He frequently ran in about 20 or 24 cubic centimetres (five to six fluid drachms) of tincture of iodine after the uterus had been washed out, if there had been much manipulation.

Dr. Beard went on to say that many so-called central *placentæ præviæ* were really not so. Inappropriate treatment might be advised on account of failure to make an accurate diagnosis. When labour was slow he preferred to watch its progress by means of abdominal examination. Thus judgement could be made of the time and necessity for vaginal examination. He did not approve of rotation of the head by means of instruments when the position was occipito-posterior. In his opinion it was not advisable to deliver the head quickly after the birth of the breech, on account of the danger of intracranial injury. He had found when the woman was making poor progress during labour, that a change to the dorsal position often brought about spontaneous delivery.

DR. D. M. STEELE (Burra) expressed the gratification of country members that the Council had given them this opportunity of listening to two such excellent papers as had been read that night and of participating in the discussion arising therefrom.

In discussing the subject matter of the papers he stated that he was impressed by the emphasis laid by the speakers on the necessity for great patience on the part of anyone conducting a confinement. He felt that this need was particularly applicable to the third stage of labour. When the baby was safely born and when all apparently was well with the mother, the practitioner, desirous of quickly responding to an urgent call or possibly anxious to join his friend awaiting him for a game of golf, might easily be tempted to try and expedite the completion of the third stage by unduly exercising pressure upon the uterus. Undue pressure, especially if exercised too early, probably caused irregular uneven contraction, resulting in annoying and possibly large hæmorrhage and actually retarding separation or expulsion of the placenta. He thought that the watchword for this stage might well be "hands off the uterus," although, of course, it was advisable to maintain control by gentle pressure above the fundus. In discussing the question of delivery by forceps he advocated the administration of full anæsthesia and stressed that when the head rested on the perineum it was advisable to wait a moment before making further traction and thereafter alternately to deliver a fraction more and then wait a moment whilst holding the head, thereby giving the soft tissues time to accommodate and minimizing the possibility of perineal rupture.

Multiple Myomata of the Uterus.

DR. RIDDELL showed a specimen of multiple myomata of the uterus. A four months' fœtus was *in situ*. The uterus had been removed from a *primipara*, aged thirty-two years, by subtotal hysterectomy. Dr. Riddell mentioned that myomata in the pregnant uterus were often not discovered until after the commencement of labour, and they often did not interfere with the course of labour. He mentioned a case in which a myoma occupying the pelvis was pushed up beyond the presenting part and labour proceeded without further delay. In one instance a large myoma discovered after the birth of a child had been so large that there had been doubt as to whether it had been a second fœtus. The course of labour had not been interfered with. Before the specimen shown had been removed, the question to decide had been whether it would have been possible to allow the pregnancy to continue in the expectation of obtaining a viable child by Cæsarean section. On account of the size and number of the tumours this course had seemed inadvisable and subtotal hysterectomy had been decided upon. An expression of opinion for future guidance was requested as to whether the correct procedure had been adopted.

Carbohydrate Metabolism.

DR. A. R. SOUTHWOOD demonstrated a series of charts to illustrate points of interest in investigating sugar tolerance. The routine test adopted was to estimate first the blood sugar content during fasting, and to follow the changes in quantity of blood sugar after the subject had swallowed a solution containing 50 grammes of glucose.

Dr. Southwood showed by his first chart that a curve of definite diabetic type could be obtained if a normal subject were deprived of carbohydrate food for one or more days immediately preceding the test. This was an important point, and it was unwise to restrict a patient's carbohydrate intake very greatly before the tolerance test was made. The glucose tolerance test applied to a person affected with renal diabetes would result in a diabetic curve if the individual tested had been deprived of carbohydrate food for a day or two preceding the test; such a result would be misleading, in that an incorrect diagnosis of *diabetes mellitus* might be made. When glycosuria was detected in

a patient the best plan was to have the sugar tolerance estimated before prescribing the diet. The possible fallacy arising from alterations in the diet was thus eliminated, and under these conditions the raising of the sugar percentage in the blood to a high level and for a prolonged period was characteristic of *diabetes mellitus*.

The second chart illustrated the result obtained in cases of renal diabetes. Glycosuria occurred after taking the 50 grammes of glucose, but the sugar percentage in the blood did not exceed 0·16. Since the sugar tolerance curve had been used so extensively it had been recognized that such cases were far from rare. The sugar tolerance curve provided the only means of definitely diagnosing renal diabetes. Extreme diet restrictions were unnecessary for the relief of this condition. The sugar metabolism was apparently normal; there were no symptoms and no liability to acidosis; the only abnormality was a lowered renal threshold for sugar.

Dr. Southwood's third series of charts illustrated the effects of administering "Lobulina" tablets to patients suffering from diabetes. "Lobulina" tablets were a proprietary preparation said to contain "active extracts of fresh pancreas glands in combination with a yeast of considerable glycolytic power," and were stated by the manufacturers to have an insulin-like action when taken by mouth. Laboratory investigation, however, had failed to reveal any glycolytic action *in vitro*. The sugar tolerance curves obtained before and after administration of the tablets were not appreciably altered in the patients tested. This was in striking contrast to the lowering of the curve following insulin injection. As far as Dr. Southwood was aware there was no reliable evidence that any benefit at all was to be derived from the oral administration of pancreatic or other extracts. At the present time proper diet regulation and the hypodermic injection of insulin were the only useful measures for diabetes. Simplicity in treatment was the great essential.

A MEETING OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the Sydney Hospital, Sydney, on July 10, 1930. The meeting took the form of a series of clinical demonstrations by members of the honorary staff.

Hæmochromatosis.

DR. WILFRED EVANS showed a male patient aged 47 years who had reported to Dr. Hamilton at the Dermatological Out-patient Department on account of increasing pigmentation of the skin. He had a uniform dark pigmentation of the forearms and face and the back of the neck, which was practically limited to the areas exposed to sunlight, but was also present on the anterior surfaces of the legs. The mucous membranes were unaffected save for a pronounced leucoplakia of the tongue. The liver was enlarged, its lower border was palpable three inches below the costal margin; it was smooth in outline.

The systolic blood pressure was 190 millimetres of mercury and the diastolic was 105. The urine was acid in reaction, had a specific gravity of 1·018 and contained no albumin or sugar. Examination of the other systems revealed no abnormality. The X ray appearances of the heart and great vessels were normal.

The red blood cells numbered 4,300,000; the percentage of hæmoglobin was estimated at 96·0. The hæmoglobin index was 1·1. Leucocytes numbered 10,400. Of these, neutrophile cells were in the proportion of 45%, lymphocytes 52%, large mononuclear cells 0·5%, eosinophile cells 0·5%, basophile cells 2·0%.

The Wassermann reaction was completely positive.

The fasting blood sugar content was 107 milligrammes per 100 cubic centimetres of blood. One half-hour after the administration of 50 grammes of glucose, the blood sugar content was 116 milligrammes per 100 cubic centimetres of blood; at the end of one hour, 128 milligrammes; at the end of one and one-half hours, 143 milligrammes; at the end of two hours, 185 milligrammes. No sugar was present in the urine at any time during the investigation.

The presence of pigmentation with enlarged liver and a climbing curve in the glucose tolerance test established the diagnosis of hæmochromatosis. Its relationship with a long standing and apparently active syphilitic condition was interesting.

Blue granules could be seen in the deeper layers of the skin after a section had been stained with potassium ferrocyanide.

In the *Journal of Bacteriology and Pathology* (Volume 9) it was stated that 30 grammes of iron had been found in the liver of a patient suffering from hæmochromatosis, whereas the body normally contained only 5·0 grammes in all, and that iron was not found in the urine and fæces of such patients. The inference was that there was some kind of obstruction to the excretion of iron through the liver in such cases. The old theory of the causation of hæmochromatosis was that it was due to excessive hæmolysis, but the patient shown had no anæmia, hæmolytic jaundice or nucleated red cells. Probably the cirrhosis was the primary condition. Pigmentation itself was not known as a cause of fibrotic change. In this case the cause of the cirrhosis was probably syphilis.

The iron pigment could only be derived from two sources, namely, the proteins of the food which are broken down and transported to the liver and the broken down red cells whose iron is also taken to the liver to be converted to bilirubin and excreted by the intestine. The inference then was that cirrhosis affecting both liver and pancreas may disorganize the iron metabolism of the body with the result that iron was deposited in the liver, spleen, pancreas, retroperitoneal glands, stomach, heart and skin.

Bronchiectasis.

Dr. Evans's next patient was a woman aged 26 years who had suffered from pertussis and pneumonia in childhood. She had a chronic cough with offensive sputum. She had lost a lot of weight and suffered from night sweats. On examination it was observed that her fingers were clubbed and there were dulness and crepitations at the base of the right lung. X ray examination following the injection of "Lipiodol" revealed the appearances of bronchiectasis at the base of the right lung. No focus of infection was found in the nose. The performance of artificial pneumothorax was followed by distinct relief of symptoms though only a partial collapse could be effected. Dr. Evans said that the question of the performance of phrenic avulsion had been considered, but had been deferred for the time being.

Disseminated Sclerosis.

Dr. Evans then showed a male patient aged 48 years, who complained of staggering gait and weakness of the right leg, a condition which had existed for a period of three years. His speech was scanning and slurred. There was paresis of the third cranial nerve of the nuclear type on each side; he was unable to raise the eyes above the horizontal and when walking was compelled to throw his head back. He had nystagmus. Bi-temporal pallor of the optic discs could be observed. The pupils reacted to light and accommodation. There was definite intention tremor when the finger to nose test was applied. The right leg was spastic and there was definite weakness of the flexors of the foot. On the right side ankle clonus and Babinski's sign were present. The right knee jerk was exaggerated. The abdominal reflexes were absent. The vibration sense was absent in the right leg and there was some delay in the conduction of epicritic and thermal sense on the same side.

Xanthoma Tuberosum Multiplex.

DR. E. H. STOKES showed a male patient aged five years. The boy, who was somewhat emaciated, had been affected with xanthomatous patches since the age of one year. Large plaques were present on the ears, elbows, palms of the hands, buttocks, thighs, knees and feet. Smaller plaques could be seen on the lower part of the abdominal wall. A xanthomatous nodule was present behind the lower molar tooth on either side.

Dr. Stokes remarked that *xanthoma tuberosum multiplex* was a very rare disease and was usually associated with an increase in the cholesterol content of the blood. In this respect it resembled myxœdema and lipoid nephrosis. This boy's blood serum cholesterol content was 1,210 milligrammes per 100 cubic centimetres of serum. The blood sugar content was 126 milligrammes per 100 cubic centimetres; blood urea nitrogen, 22 milligrammes per 100 cubic centimetres; blood creatinine, 4·5 milligrammes per 100 cubic centimetres. The blood did not react to the Wassermann test. When the urea concentration test was applied the urine contained 2·5% of urea at the end of the second hour.

The patient was being treated by the administration of thyreoid extract and was showing some evidence of improvement.

Lipoid Nephrosis.

Dr. Stokes's next patient was a youth aged 18 years. This patient was shown at a former meeting of the New South Wales Branch of the British Medical Association held at the Sydney Hospital in July, 1929. At that time his legs were œdematous and his abdomen was swollen; his blood serum cholesterol content was 800 milligrammes per 100 cubic centimetres of serum. He was treated by the administration of thyreoid extract and was given a high protein diet as advised by Epstein.

At the time of the present meeting there was no œdema, the blood cholesterol content was 205 milligrammes per 100 cubic centimetres; the blood urea nitrogen was ten milligrammes per 100 cubic centimetres; the blood creatinine was 1·5 milligrammes per 100 cubic centimetres. The urine still contained albumin. The systolic blood pressure was 110 and the diastolic pressure, 80 millimetres of mercury.

The patient was now taking 0·18 gramme (three grains) of "Tabloid" thyreoid three times a day. At one time he was taking 1·62 grammes (27 grains) of thyreoid extract per day.

Artificial Pneumothorax Therapy.

Dr. Stokes also showed four patients who were receiving treatment for pulmonary tuberculosis by means of artificial pneumothorax.

The first patient was a man aged 30 years who was seen first in the out-patient department in October, 1929, when he complained of cough, night sweats and loss of weight, but no hæmoptysis. At the time of the first examination his temperature was 39·45° C. (103° F.) and crepitations were heard at the apex of the lower lobe of the right lung. Bronchiectasis of the right lower lobe was diagnosed radiologically. Tubercle bacilli were found in the sputum. Artificial pneumothorax was induced and maintained. Paracentesis of the chest was performed on account of pleural effusion in November, 1929. An X ray report given on June 26, 1930, was to the effect that there was then no evidence of activity in the right lung. The patient was able to follow his occupation as a wharf labourer. At the time of the meeting he appeared to be in excellent health.

The next patient was a woman aged 23 years, who was first seen in the out-patients' department in August, 1929, when she complained of night sweats, loss of weight, hæmoptysis and cough with sputum. Her temperature at that time was 38·0° C. (100·4° F.); there was dulness to percussion over the apex of the right lung and crepitations were audible at the same situation. Radiologically the appearances were those of tuberculosis or lung abscess of the middle lobe of the right lung. As there did not appear to be any appreciable improvement with rest, artificial pneumothorax was induced. This was followed by freedom from toxic symptoms. The patient was unable to leave Sydney in order to enjoy the benefit of change of climate.

The third patient was a man aged 24 years who had been ill for one month when first seen in May, 1930. He had had pleurisy three years earlier. There was an area of dulness in the region of the right nipple where tubular breathing and crepitations could be heard. X ray examination revealed the presence of an opacity in the right middle lobe, which the Honorary Radiographer regarded as most likely due to an abscess, but tuberculosis could not be excluded. Tubercle bacilli were found in the sputum. The induction of artificial pneumothorax was followed by freedom from cough and toxic symptoms.

Dr. Stokes's last patient was a man aged 33 years who also had a tuberculous infection in the right middle lobe. There was a severe toxæmia at first, but the induction of artificial pneumothorax was followed by considerable improvement. Dr. Stokes remarked that a pleural effusion had appeared, however; paracentesis would shortly be necessary.

Epithelioma of the Lip.

DR. H. S. STACY showed a male patient who had an epithelioma of the lip of nine months' duration. When first seen the growth occupied the right half of the lower lip; its base was dirty and necrotic. There was a large mass in the right submaxillary region, adherent to the mandible and surrounding tissues and discharging pus from its centre. As the glandular mass was apparently beyond the stage when surgical treatment could be of any value, radium was applied in the hope that it might result in an improvement of the unpleasant state of the lip. Altogether a dose of 1,104 milligramme hours was given by the use of needles containing each one milligramme of radium. In six or seven weeks the epithelioma disappeared and the glandular mass improved to such an extent that Dr. Stacy felt it was now operable.

Dr. Stacy showed another male patient, aged 72 years, who had had a wart on the right side of his lower lip for a period of eight years. This had increased rapidly in size during the four weeks immediately prior to admission to hospital. The tumour bled easily and there was no pain. It was about 25 millimetres (one inch) in diameter and had an ulcerated surface. Enlarged glands could be felt in the digastric triangle.

The glands of the neck were removed surgically and three needles containing each two milligrammes of radium were inserted just beneath the growth. The needles were removed after nine days. Thus the patient had received a dose of 1,296 milligramme hours.

At the time of the meeting the greater part of the growth had disappeared with no apparent loss of tissue. The most medial part of the tumour remained, however; Dr. Stacy thought this was due probably to uneven irradiation. He proposed to repeat the radium treatment; if this were unsuccessful on account of an acquired radio-resistance, he would excise.

Ischæmia and Pain in the Leg Treated by Ramisection.

Dr. Stacy's last patient was a female aged 16 years who had suffered from pain and coldness in the right leg for a period of six years. At the age of two years she had suffered from acute poliomyelitis which had left extensive paralysis of both legs for the relief of which two years prior to the meeting Dr. Stacy had performed numerous tendon transplantations with considerable improvement. Believing that the pain and coldness in the leg might be due to sympathetic overaction and consequent vaso-constriction, it was thought ramisection might be of value. Dr. Hoets when called in consultation approved of the suggestion. Dr. Stacy, assisted by Dr. Ramsay Sharp, accordingly operated six weeks before the meeting. The grey rami of the third and fourth lumbar ganglia and the sympathetic cord below the fourth ganglion were divided. At the conclusion of the operation the right leg felt distinctly warmer than the left and remained so for a period of two weeks, but from that time onwards both legs felt the same. The patient had lost all her pain.

The Pilometer Reaction.

DR. R. COUPLAND WINN demonstrated the pilomotor reaction of Lewis. Dr. Winn stated that the pilomotor reaction was produced by stimulation of the skin by means of a Faradic current. It consisted in the development of "goose skin" around two electrodes placed 1·5 millimetres apart, applied for ten seconds. The usual response was an area of "goose skin" roughly four centimetres in length by two centimetres in breadth. The reaction varied in

extent in accordance with the state of the sympathetic nervous supply to the part stimulated. After sympathectomy and degeneration of the subcutaneous fibres of the sympathetic nerves, the pilomotor reaction was at first diminished and later abolished. Abolition was proof of successful section in various types of operations on the sympathetic nervous system.

The reaction was greater in extent when there was overaction of the sympathetic nervous system. The test would be applicable to such conditions as Raynaud's disease, Buerger's disease, disease of the thyreoid and adrenals and certain conditions of spinal curvature *et cetera*.

The pilomotor reaction was in some respects comparable to the psycho-galvanic reflex. The latter was abolished, however, immediately after the sympathectomy operation.

Dr. Winn showed four patients who were affected by a unilateral overaction of the sympathetic nervous system. All had unilateral increase of plastic tone. Dr. Hoets had performed the operation of sympathectomy on three of them. Improvement of function coincided with abolition of the psycho-galvanic reflex and diminution of the pilomotor reaction on the side of the sympathectomy. A period of less than two months had elapsed since operation. This was not sufficiently long for the complete degeneration of the subcutaneous sympathetic fibres. Tests done before operation resulted in more extensive pilomotor reactions and stronger psycho-galvanic reflexes on the side of the increased plastic tone. In one patient the pilomotor reaction was especially pronounced, extending over the whole surface on the affected side. The fourth patient, who at the time of the meeting had not been subjected to operation, had on the affected side a pilomotor reaction double the extent of that on the normal side.

Adenoma Sebaceum.

DR. NORMAN PAUL showed a woman aged 41 years who was suffering from *adenoma sebaceum* of the Pringle type. The condition commenced at the age of ten years and was fully developed by the time the patient had reached the age of fifteen years. No other member of the family was similarly affected. The mentality of this patient was normal.

Granuloma Annulare.

Dr. Paul also showed a woman suffering from *granuloma annulare*. Lesions were present on both forearms near the wrists. They were about eight or nine in number and were in their various stages. The majority were circinate and about the size of a shilling, though the early nodular stage and one very large irregular annular lesion were present.

Surgical Diseases of the Kidney.

DR. REGINALD BRIDGE showed a number of specimens of kidneys which had been removed on account of the existence of tuberculosis or tumours. A diagnostic pyelogram was shown with each specimen. The specimens were of a variety of grades of renal tuberculosis and a variety of tumours, from the common hypernephroma to the rare and very malignant papillary carcinoma of the renal pelvis. Dr. Bridge pointed out that the exhibits illustrated very well the importance of a careful investigation of every patient suffering from unexplained pyuria or hæmaturia. Early diagnosis was essential and neglect of "frequency" and pyuria or symptomless hæmaturia may mean neglect of the earliest warning of grave disease in the kidney.

Mediastinal Tumour.

DR. A. W. HOLMES À COURT showed a male patient aged 35 who had been admitted to hospital on May 12, 1930, complaining of occasional pain between the shoulder blades and general failure of health during a period of twelve months. He had a pallid appearance and was slightly breathless on exertion. Physical examination revealed little abnormal save some dulness and deficient air entry at the bases of the lungs. X ray examination of the thorax revealed the existence of a very extensive new growth of the mediastinal structures, spreading out laterally behind the sternum. Improvement in the general condition followed irradiation. The diagnosis was lymphadenoma of the mediastinal glands. The paucity of clinical signs of disease was in striking contrast to the extensive pathological changes revealed by X ray examination.

Policythæmia Vera.

Dr. Holmes à Court's next patient was a man aged 39 years, who had been admitted to hospital on May 30, 1930, complaining of a feeling of fullness in the head, and pain over the eyes, which had commenced insidiously some eighteen months previously. Extravasation of blood into the flexor muscles of the arm had occurred shortly before his admission. The characteristic cyanotic and congested appearance associated with *policythæmia vera* was present. No enlargement of the spleen was observed. There were 6,840,000 red cells and 17,000 white cells per cubic millimetre of blood. The hæmoglobin value was 134% and the colour index was 1·0. Of the white cells, 80% were polymorphonuclear cells, 10% lymphocytes and 10% eosinophile cells. The blood platelets numbered 629,280 per cubic millimetre. The fragility test resulted in hæmolysis with a saline solution of 0·55%. The red cells appeared to be normal in size and shape. Venesection was of no value; the blood appeared to be thick and viscid.

Treatment by the administration of phenyl-hydrazine-hydrochloride in a dose of 0·06 gramme (one grain) three times a day appeared to have given a measure of relief at the end of two weeks. The number of red cells then was 6,010,000, white cells 15,560 and platelets 270,000 per cubic millimetre. The hæmoglobin value had fallen to 120% and the colour index to 0·9; the neutrophile celis were in the proportion of 87%, lymphocytes 10·5%, and eosinophile cells 2·5%.

Muscular Dystrophy.

Dr. Holmes à Court next showed a male patient aged 43 years who had first sought advice on account of the recurrence of a direct inguinal hernia which had been repaired four months previously. Weakness of the arms and shoulders had commenced four years prior to admission to hospital; later the thighs had become affected. There was atrophy of the muscles of the face and shoulder girdle, the deltoids, triceps, lower half of the *pectoralis major*, and muscles of the posterior axiliary folds. The intrinsic muscles of the hands were wasted to some extent. The *glutæus maximus* and the *quadriceps extensor femoris* muscles on either side were very wasted. There was general weakness of the musculature of the abdominal walls. The condition conformed more or less accurately to the type of fascio-scapulo-humeral dystrophy with primary atrophy. The patient was of interest first as he suffered from one of the rarer types of muscular dystrophy occurring in middle life and secondly as his condition provided an object lesson on the necessity for careful investigation before subjecting a patient to a surgical operation.

Pituitary Disorder.

DR. G. C. WILLCOCKS showed a male patient aged six and one-half years who had been taken to see a physician on account of "backwardness." There was no history regarding the actual date of onset of abnormality. There was a history of a succession of illnesses before the age of twelve months. Possibly these resulted in an endocrine disturbance. The boy was fat and clumsy for his age and weighed 37·8 kilograms (six stone), which was far in excess of the average weight. His facies was unintelligent in appearance and he spoke indistinctly. The genital organs were very poorly developed. The pituitary fossa appeared to be abnormally small when examined radiologically. The X ray appearances of the phalanges were said to be normal.

Dr. Willcocks said that this patient appeared to be suffering from pituitary infantilism with obesity. Probably the defective genital development was due to a disorder of the anterior lobe and the obesity a disorder of the posterior lobe. In all likelihood the condition was one of hypopituitarism. Engelbach stated that pre-adolescent hyperactivity of the anterior lobe caused gigantism and hyperactivity of the posterior lobe caused hypophyseal glycosuria or decreased sugar tolerance; he further said

that hypoactivity of the anterior lobe gave rise to an individual with a small head, small *sella turcica*, genital hypoplasia, short stature, all bones under developed and narrow tapering phalanges.

Dr. Willcocks proposed to treat this patient by the administration of whole gland pituitary in a dose of 0·30 gramme (five grains) or more per day and thyreoid extract in a dose of 0·03 gramme to 0·06 gramme (one-half to one grain) per day by mouth. Thyreoid stimulated the activity of other endocrine glands. Dr. Willcocks further remarked that many of the unduly obese children between the ages of five and fiftteen years probably suffered from under-activity of the posterior lobe of the pituitary body. Such patients were usually nearly if not quite normal mentally and their genital hypoplasia was not pronounced. They often made a spontaneous recovery at or within a few years of puberty without treatment. The subnormal mentality of the patient shown and his genital hypoplasia called for some attempt to stimulate the activity of the glands concerned. If development and descent of the testes did not occur within a period of three or four years a eunuchoid condition would probably supervene.

Thromboangiitis Obliterans.

DR. GEORGE BELL showed a male patient aged thirty years who had suffered from pain, chilblains and coldness in the left foot for a period of five months before coming under observation in November, 1929. A small black spot made its appearance on the dorsum of the third toe of the left foot; this increased in size until at the time of admission it occupied the whole of the dorsum of the toe. The pain in the left foot was very severe and was aggravated by extremes of temperature. The patient had no Jewish ancestry. He denied that he had ever suffered from venereal disease. He smoked the contents of two packets of cigarettes daily and was a moderate drinker.

At the time of admission the left foot was swollen and dusky red in colour. The third toe was dry and black dorsally and blue on the plantar surface. Sensation was absent on the dorsum of the foot, but the plantar surface was hypersensitive. The foot became cold and blanched when elevated. The pulsation of the *dorsalis pedis* artery could not be felt in the left foot. No abnormality was detected in the other systems and there were no other sensory disturbances. The radiographical appearances of the foot were normal. There was no reaction to the Wassermann test. An intervenous injection of a vaccine of *Bacillus typhosus* and *Bacillus paratyphosus A* and *B* was given in a dose of five million organisms. The foot remained cold during the febrile period.

Potassium iodide and *liquor trinitrini* were administered in increasing doses. Postural treatment, consisting of alternately raising and lowering the leg and allowing it to rest in the horizontal position, was instituted.

No improvement followed, in fact the foot became much more swollen. The gangrene was dry and did not advance. A line of demarcation formed and amputation of the toe was performed in January, 1930.

Pseudocyst of Omental Bursa.

Dr. Bell's next patient was a man whose liver had ruptured as the result of a kick from a horse on February 8, 1930. The liver had been sutured. One month later his abdomen became swollen; 4·5 litres (one gallon) of fluid was removed by paracentesis. At the time of admission on April 5, 1930, he complained only of dyspnœa. A soft tumour could be felt in the epigastrium. This grew rapidly. On April 13, 1930, at laparotomy, a large fluctuant mass was discovered behind the stomach and anterior layer of the greater omentum. This was opened and a brownish watery fluid containing small pieces of gelatinous material was evacuated. The pancreas was slightly enlarged. The sac was drained and the patient made an uninterrupted recovery. Histologically the material removed consisted of a small amount of adipose tissue and granulation tissue which in places was fibroblastic. There was no material suggestive of a lining of a cyst. Chemical examination of the fluid did not reveal the presence of pancreatic juice.

Public Health.

FACILITIES FOR THE TREATMENT OF TUBERCULOUS PATIENTS IN NEW SOUTH WALES.

A REQUEST has been received from Dr. H. K. Denham, Director, Tuberculosis Division, Department of Public Health, New South Wales, for the publication of the following information regarding treatment of tuberculous patients for the guidance of medical practitioners in private practice.

1. Antituberculosis dispensaries are established at the Royal Prince Alfred Hospital, Royal North Shore Hospital, the National Association for the Prevention and Cure of Consumption, 169, Albion Street, Sydney, and at Newcastle. Patients and contacts can attend there for a routine clinical, X ray and sputum examination. A patient so examined does not pass out of the hands of the medical practitioner, unless the latter so desires. Those patients who remain in their own homes are visited at intervals by nurses from the dispensaries or the Tuberculosis Division, Department of Public Health, and attend regularly for advice and treatment at the dispensary; those acutely ill are sent to hospital; those suitable for sanatorium treatment are sent to the Director, Tuberculosis Division, who arranges for their admission.

2. All admissions to sanatoria are arranged by the Director, Tuberculosis Division. Patients must attend at the office of the Director, 5, Richmond Terrace, Domain, bringing with them a report on either a sputum or X ray examination, preferably both, one or other of which must be positive. They are then examined or referred to an examining medical officer of one of the sanatoria concerned and disposed of in the following way: (i) Female patients in the early stages are sent to the Queen Victoria Sanatorium at Thirlmere; male patients in the early stages are sent to the Red Cross Sanatorium and the Queen Victoria Sanatorium at Wentworth Falls. (ii) Patients in the intermediate stage, both male and female, are sent to Waterfall Sanatorium. (iii) Patients in the late stages, both male and female, are sent to Malahide Red Cross Hospital or to the Coast Auxiliary Hospital, Randwick.

The Red Cross Convalescent Farm at Exeter is used for those male patients who have responded to sanatorium treatment to a degree sufficient to warrant a belief that a stay of six months at Exeter will fit them to resume their civil occupations.

3. Admission of country cases to sanatoria is arranged on application to the Director, Tuberculosis Division. Patients must fulfil the following conditions: (i) Have positive result of sputum examination; (ii) have, where possible, result of X ray examination; (iii) have a reasonable prospect of arrest of the disease; (iv) be afebrile for at least a fortnight prior to removal; (v) not need an escort (except in the case of children).

Application forms are obtainable at the office of the Director, Tuberculosis Division.

Patients in a hopeless condition and those confined to bed and resident in the country should be cared for in their local hospital. It is very much better for patients in advanced stages to remain in their own district surrounded by their own people. They are much happier so; their relatives are saved expense when visiting the patient and when death occurs the expenditure not infrequently incurred through the transport of the deceased very long distances for interment is obviated; an unsuitable patient is not admitted to a sanatorium and an unnecessary expense for transfer of the patient is not incurred.

4. Picton Lakes Tuberculosis Village Settlement is for sanatorium patients in whom the disease has been arrested for six months at least. Admissions are arranged by the Organizing Secretary in cooperation with the Director, Tuberculosis Division.

5. Notification of pulmonary tuberculosis applies to the whole State of New South Wales and attention is directed to Section 10 (1) of the *Public Health (Amendment) Act*, No. 7, 1915, which is as follows:

If any medical practitioner attending any person becomes aware that such person (hereinafter referred to as the patient) is suffering from pulmonary tuberculosis, he shall examine the sputa of the patient, or cause them to be examined, and, if he has reasonable grounds for believing that such sputa contain tubercle bacilli, he shall forthwith give notice thereof in the prescribed form. . . .

The medical practitioner should therefore notify every patient in whose sputum tubercle bacilli are found, as the knowledge that an infection has previously been notified by another medical practitioner does not relieve him of this obligation.

From the Metropolitan, Hunter River and Broken Hill districts notification must be sent to the medical officer of health for the district; from all other areas to the Secretary, Board of Health, Sydney.

On notification patients will be visited, except those living in the country, by a visiting nurse unless the doctor expresses a wish to the contrary. Notification forms can be obtained on application to the Board of Health, Sydney.

As notification is in most cases the first intimation the Tuberculosis Division has of patients suffering from the disease and as early diagnosis and treatment are so essential, the earnest cooperation of medical practitioners is sought both in the matter of immediate notification and inducing the patient to go to a sanatorium, if only to learn there the routine and careful habits so necessary in combating the disease.

Correspondence.

THE UNION OF EPIPHYSES.

SIR: In THE MEDICAL JOURNAL OF AUSTRALIA of November 8, 1930, are printed some of the results published by G. Galstaun in the *Indian Medical Gazette*, April, 1930, of the union of epiphyses in Indian girls, shown by radiological investigation, demonstrating that the union of epiphysis and diaphysis occurred at a much earlier age than that given by various authorities for the fusion of the same bones in Europeans.

Lately an opportunity was afforded of examining the skeleton of a girl born in Australia of German descent, aged fourteen years and five months. The following epiphyses were fused: In the scapula, the coracoid and acromion; in the humerus, both lower epiphyses; in the radius and ulna, the upper epiphyses. The metacarpals showed epiphyses joined.

In the lower limb there was complete union in the acetabulum; in the femur the trochanters were joined; the head showed portion of the line below; in the tibia the lower epiphysis was joined, the upper nearly so; in the fibula both upper and lower were almost completely joined. The metatarsals showed the epiphyses joined, whilst in the vertebræ all epiphyses were joined, except the body plates, though occasionally one noted that the tip of the transverse process and the spine were not quite completely fused.

These unions are years earlier than those recorded for Europeans by such authorities as Quain, Cunningham, Gray, and, more important for my purposes, Taylor's "Medical Jurisprudence," and more in conformity with those given by Galstaun.

Yours, etc.,

ARTHUR PALMER, M.B., F.R.C.S. (Ed.),
Government Medical Officer for Sydney.

November 19, 1930.

UNUSUAL POISONING BY ARSENIC.

SIR: In THE MEDICAL JOURNAL OF AUSTRALIA of June 7, 1930, there were reported unusual poisonings by arsenic in which two brothers and a sister were affected by arsenic taken from a pepper pot, no more arsenic being taken after November, 1929. It was noted that there was much arsenic present in February, 1930, and it was mentioned that an interesting point is the duration of the period after the intake of arsenic during which it can be found in the hair and nails.

A further sample of hair was secured on September 11, 1930, and this has been analysed by Dr. Taylor, Senior Assistant Government Analyst, with the result shown beneath:

Sample Number.	Name.	Weight of Sample in Grammes.	Arsenic Milligrammes per 100 Grammes.
1	J.M.	2·0	Not greater than 0·05
2	C.M.	2·0	" " " 0·05
3	A.M.	2·0	" " " 0·10

Note that the amount of arsenic found would not be regarded as significant in any person.

Although at the time the samples were taken the three were gradually improving in health, none had quite recovered. The older brother walked fairly well, but had not full control of his fingers; the other brother needed a walking stick and had not full use of his hands; and all at times felt anything but well.

Yours, etc.,

ARTHUR PALMER, M.B., F.R.C.S. (Ed.),
Government Medical Officer for Sydney.

November 19, 1930.

DR. CHISHOLM ROSS.

SIR: We feel that the medical profession in New South Wales should have an opportunity of giving some open expression of its appreciation of Dr. Chisholm Ross's long and distinguished association with the medical work of this State.

We therefore suggest that a meeting should be held at an early date to consider what steps should be taken.

Yours, etc.,

ALEXANDER MACCORMICK,
JARVIE HOOD,
R. SCOT SKIRVING,
CECIL PURSER,
W. J. STEWART MCKAY,
GORDON CRAIG,
GUY PRIOR.

Sydney,
December 16, 1930.

[We have been asked to invite all who propose to attend to inform Professor W. S. Dawson, The Medical School, The University of Sydney, Secretary of the Organising Committee: Lyle Bond, Howard Bullock, A. L. Dawson, P. Sydney Jones, John McKelvey, Hugh R. G. Poate, S. A. Smith, H. H. Schlink, A. H. T. Tebbutt, C. G. McDonald.—EDITOR.]

Obituary.

ROBERT THOMAS JOHNSON.

WE regret to announce the death of Dr. Robert Thomas Johnson which occurred on December 16, 1930, at Toowoomba, Queensland.

CHARLES CROZIER TANDY MAGEE.

DR. CHARLES CROZIER TANDY MAGEE whose death was announced in the issue of December 6, 1930, was born at Ballarat, Victoria, on October 26, 1859. He was educated at Grenville College, and entered the service of the Bank of Australasia. He then studied pharmacy and subsequently occupied several important posts, including that of pharmacist to the Brisbane General Hospital. He had always had the profession of medicine before him as a goal and eventually was able to realize his ambition; he went to England and gained the diploma of the Conjoint Board. During his student days he had the good fortune to number among his teachers such men as Frederick Treeves and Clifford Allbutt. Returning to Australia he practised at Penola, South Australia. Subsequently he practised at Tungamah and at Branxholme. He remained here until May, 1930, when he had to retire on account of ill-health. Eventually he had to undergo a surgical operation, but it was of no avail.

Magee was conscientious in his practice, he brought cheerfulness to his patients and gained their affection. His knowledge of pharmacy was an asset to him as a country practitioner. In his younger days he was fond of sport and excelled at both cricket and football; he was also fond of rowing. His courage and cheerfulness in his last illness were remarkable.

Dr. S. C. Fitzpatrick writes: The death of W. Crozier Magee after a long and losing battle for health removes from among us one whose loss we greatly deplore. It was my good fortune to be associated with him in many cases during the past nine years. This gave him ample opportunity to prove Blanchard's statement: "A consultation is the best opportunity to show one's real ability in medicine, one's position as to honesty, and one's standing as a man." Magee under these conditions demonstrated his well developed clinical sense, his diagnostic alertness, his frank and honest desire to do his best for his patients.

His relations with his colleagues were without exception of the most cordial and he was always keenly interested in the activities of the British Medical Association.

Books Received.

A TREATISE ON HYGIENE AND PUBLIC HEALTH, WITH SPECIAL REFERENCE TO THE TROPICS, by Birendra Nath Ghosh, F.R.F.P. & S., Revised and Largely Rewritten with the Advice and Assistance of A. D. Stewart, M.B., F.R.C.S.E., D.P.H., D.T.M. & H.; Seventh Edition; 1930. Calcutta: Scientific Publishing Company. Crown 8vo., pp. 754, with illustrations. Price: 10s. 6d. net.

PSYCHOPATHOLOGY, A SURVEY OF MODERN APPROACHES, by J. Ernest Nicole, L.M.S.S.A., D.P.M.R.C.P. & S., with a Foreword by W. H. B. Stoddart, M.D., B.S., F.R.C.P.; 1930. London: Baillière, Tindall and Cox. Demy 8vo., pp. 215. Price: 10s. 6d. net.

A TREATISE ON MATERIA MEDICA AND THERAPEUTICS, INCLUDING PHARMACY, DISPENSING, PHAMACOLOGY AND ADMINISTRATION OF DRUGS, by Rakhaldas Ghosh; Twelfth Edition by Birendra Nath Ghosh, F.R.F.P. & S.; 1930. Calcutta: Hilton and Company. Crown 8vo., pp. 775. Price: 12s. 6d. net.

HANDBOOK OF DISEASES OF INFANTS AND CHILDREN FOR STUDENTS AND PRACTITIONERS, by F. M. B. Allen, M.D., M.R.C.P.; 1930. London: Baillière, Tindall and Cox. Demy 8vo., pp. 602. Price: 15s. net.

MONOGRAPHS ON BIOCHEMISTRY: ENZYMES, by J. B. S. Haldane; 1930. London: Longmans, Green and Company. Royal 8vo., pp. 235, with charts. Price: 14s. net.

Medical Appointments Vacant, etc.

FOR announcements of medical appointments vacant, assistants, *locum tenentes*, sought, etc., see "Advertiser," page xiv.

HAWERA HOSPITAL BOARD, HAWERA, NEW ZEALAND: Resident Physician.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 135, Macquarie Street, Sydney.	Australian Natives' Association. Ashfield and District United Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham United Friendly Societies' Dispensary. Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney. North Sydney Friendly Societies' Dispensary Limited. People's Prudential Assurance Company, Limited. Phœnix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Members desiring to accept appointment in ANY COUNTRY HOSPITAL, are advised to submit a copy of their agreement to the Council before signing, in their own interests. Brisbane Associated Friendly Societies' Medical Institute. Mount Isa Hospital. Mount Isa Mines.
SOUTH AUSTRALIAN: Secretary, 207, North Terrace, Adelaide.	All Lodge Appointments in South Australia. All Contract Practice Appointments in South Australia.
WESTERN AUSTRALIAN: Honorary Secretary, 65, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
NEW ZEALAND (Wellington Division): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales. (Telephones: MW 2651-2.)

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